

STEVENSON & HOWELL'S

NEW SELECTED

Palermo Oil of Lemon

OF SUPERB QUALITY.

WE have pleasure in announcing that we are ready to deliver the first shipments of NEW CROP Selected OIL LEMON, just received direct from the Grower, having passed through no intermediate hands. Our policy of shipping and supplying only the finest and purest Sicilian Essences from one grower has succeeded far beyond our most sanguine expectations, and it cannot be too widely known that we have not been compelled by competition to set up a mixing establishment in Messina, but that, on the contrary, the demand for our Pure Selected Sicilian Essences continues to increase month by month, as their practical working value becomes more and more appreciated.

STEVENSON & HOWELL

STANDARD WORKS,

95a SOUTHWARK STREET, LONDON, S.E.;

AND 128 HOPE STREET, GLASGOW.

PUMILINE FOR INFLUENZA.

In view of an approaching Epidemic of Influenza Chemists would do well to get in a stock of

PUMILINE ESSENCE, EXTRACT & LINIMENT

DIRECTIONS FOR USE.

The air should be kept charged with the fragrant and antiseptic vapours of PUMILINE by means of a Spray Apparatus, or by placing a small quantity in a shallow receptacle. This will keep off an attack.

Should the headache, general soreness, &c., show an attack to be imminent, the sufferer should at once take a Hot Bath (105 to 110° F.), or of as high a temperature as the patient can bear it, in which a bottle of the PUMILINE EXTRACT has been dissolved, remaining immersed for ten minutes, to be repeated if necessary twelve hours later. He should then be warmly wrapped up and lie down in a warm room secure from draughts. Catarrhal symptoms are best met by the systematic inhalation (once an hour) of PUMILINE, either by an ordinary hot-water inhaler or by means of the simple "DRY INHALER," the medicated air being drawn well into the lungs. From one to four drops of PUMILINE ESSENCE should be taken on a piece of sugar, or in the form of Jujubes, every four hours from the very commencement. Localised pain will be promptly relieved by gently rubbing in PUMILINE LINIMENT at short intervals.

The demand for Pumiline and Pumiline Extract is certain to be immediate and overwhelming, and Chemists should be prepared to meet it.

A BOTTLE OF EACH OF THESE PREPARATIONS READY FOR USE SHOULD BE KEPT BY EVERY FAMILY.

The Medical Press and Circular of the 18th ult. says:—"Nothing can be better suited to ward off an attack of Influenza than Stern's Pumiline, which rapidly permeates and disinfects the air. As a remedy in catarrhal conditions it is no less efficacious, both internally and by inhalation."

The Hospital Gazette, in an article headed "The Influenza Scare," says:—"There is nothing more efficacious to ward off or cut short the attacks of Influenza than Stern's Pumiline. This potent remedy may be used as an inhalation, or a few drops taken on sugar or in any convenient vehicle."

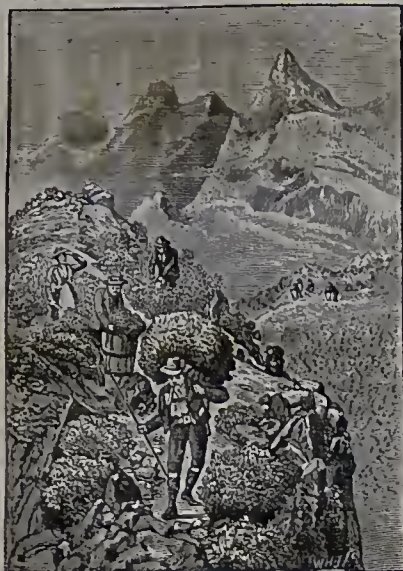
	RETAIL.	TO THE TRADE.
Stern's Pumiline Essence	1/6 & 2/6 per bottle, 15/ & 24/ per doz.	
Stern's Pumiline Extract	... 1/	9/
Stern's Pumiline Liniment	1/1½ & 2/9	11/ & 27/

And also subject to usual discounts.

Will forward Literature Show Cards and Handbills to all Chemists free on application.

G. & G. STERN, 62 GRAY'S INN ROAD, LONDON, W.C.

A PINE HARVEST ON THE ALPS.

COLLECTING THE PUMILIO PINE TOPS FOR
G. & G. STERN'S PUMILINE.

STERN'S PUMILINE

EXCLUSIVELY OBTAINED FROM



THE SNOW-GROWN PUMILIO

For PREPARATIONS

Rheumatism, Gout, Throat & Chest Affections, & Skin Disease.

PUMILINE ESSENCE

Is a specially prepared volatile essence, distilled from a particular variety of pine, growing nearest the snow level on the Alps. It possesses exceptional medicinal properties when given internally, or in the form of inhalations, in the treatment of Pulmonary and Diathetic Affections, such as Phthisis, Rheumatism, Gout, &c. It is a valuable deodorizer and disinfectant, and has a peculiarly refreshing and fragrant odour.

PUMILINE JUJUBES

For Sore Throat, Cough, Hoarseness, &c., they give immediate relief.

PUMILINE LINIMENT

Specially beneficial for use in Chronic Rheumatism, Gout, Lumbago, Sciatica, &c. It is also invaluable for Throat and Chest Affections, and may be taken internally, in doses of 2 to 5 drops.

PUMILINE PLASTER

Is most effective in Chronic and Muscular Rheumatism, Lumbago, Sciatica, and also for Chest Affections.

PUMILINE EXTRACT

For Gout, Rheumatism, and Skin Disease; used in BATHS, Ointments, and Liniments.

PUMILINE OINTMENT

For all Skin Affections, Irritations, Insect Bites, Burns, &c. This Ointment is a fine smooth homogeneous application. It gives immediate relief in the intolerable itching of Eczema, &c. It is unrivalled both as a medicinal agent and toilet requisite.

PUMILINE SOAP

Is a carefully neutralised superfatted Soap, containing no free alkali, and is a Lubricant instead of a Desiccant to the skin. It is peculiarly adapted for use to the delicate skin of ladies and children. It leaves the skin smooth and satiny, and beautifies the complexion. The Pumiline Essence which it contains makes it a powerful disinfectant.

PUMILINE DRY INHALER

Most effective and convenient pocket inhaler for use in Throat or Lung Troubles. Is invaluable for use during a fog or mist.

One of the Physicians to **H.R.H. THE PRINCE OF WALES** writes:—"Nothing gave my patient so much relief as Stern's Pumiline."

Sir Morell Mackenzie writes:—"I consider it a most valuable preparation. It acts as an admirable tonic to the mucous membrane in cases of Bronchitis and Laryngeal Catarrh."

Another Eminent Physician writes:—"My patient was more quickly relieved by the use of Stern's Pumiline Jujubes than by any other means made use of by me during an experience extending over thirty years."

An Eminent Surgeon, F.R.C.S., writes:—"I have used the Jujubes for Sore Throat and Loss of Voice, always with marked benefit. They are most agreeable and most reliable."

OVER 700 MEDICAL TESTIMONIALS AND NOTICES IN ALL THE LEADING MEDICAL JOURNALS.

G. and G. STERN'S TRADE PRICE LIST leaves a very large margin of profit to Chemists and the Trade generally, viz.:—

PRICES—

	RETAIL	WHOLESALE.
PUMILINE ESSENCE	1/6 and 2/6 per bottle.....	15/ and 24/ per dozen.
PUMILINE EXTRACT	1/ per bottle.....	9/ per dozen.
PUMILINE JUJUBES	1/1½ and 2/3 per box	10/6 and 20/ per dozen.
PUMILINE OINTMENT	1/1½ and 2/9 per pot.....	11/ and 27/ per dozen.
PUMILINE LINIMENT	1/1½ and 2/9 per bottle	11/ and 27/ per dozen.
PUMILINE SOAP... (box of 3 cakes).....	1/6 and 9d., and 1/ per tablet.....	15/, 7/6, and 9/ per dozen.
PUMILINE PLASTER	1/1½ each	9/ per dozen.
PUMILINE DRY INHALER	1/6 each.....	14/ per dozen.

BESIDES WHICH AN ADDITIONAL DISCOUNT IS ALLOWED TO CHEMISTS AND THE TRADE.

G. & G. STERN, 62 Gray's Inn Road, LONDON, W.C.

Will send Show Cards and Literature Free on Application.

MENTHOL AND INFLUENZA.

Dr. LENNOX BROWNE, in writing to the Medical Press, which letter also appeared in Thursday's Daily Papers, recommends **MENTHOL** for this complaint, as a **PREVENTIVE OF INFECTION** in Epidemic Influenza, **BECAUSE—**

1. It stimulates the Capillary Blood Vessels of the Nose and Throat.
2. It assists Sneezing and Rhinal flow.
3. It relieves, and indeed dissipates, Pain and Fulness of the Head.
4. It is powerfully Germicide and Antiseptic. It thus kills the microbe of infection and prevents its dissemination.

THEREFORE REMEMBER,

SHIRLEY'S A1 MENTHOL IS THE BEST.

Recommend your Customers to use

A1 MENTHOL SNUFF.

Put up to sell Retail at 6d. and 1s. Price 3s. 6d. and 7s. per dozen.

By carrying a box in the pocket, and occasionally taking a pinch, it will be found invaluable for Influenza, Catarrh, Chronic Laryngitis, Ozæna, &c.

MENTHOL FOR VAPORIZATION

AS RECOMMENDED.

The Crude Menthol supplied ready put up in $\frac{1}{2}$ -lb. and 1-lb. Bottles.

Take advantage of this grand opportunity of doing extra trade, and send orders for above at once.

ARTHUR W. SHIRLEY, 55 FARRINGDON ROAD, E.C.

SHIRLEY'S A 1 BRAND MENTHOL CONES



The Chemist and Druggist says:—Mr. Arthur W. Shirley has produced a very attractive biscuit china figure, represented in the annexed engraving. The advertisement is effective without being at all vulgar, and the little crier, we expect, will soon be a familiar figure about the country.

Start the New Year well by laying in a stock of Saleable Goods, such as **MENTHOL CONES**, especially as by ordering 25/- worth of the **A 1 BRAND** you can secure one of the charming little China Criers (or, if 40/- order is placed, Two Figures will be given), now so well known about the country. Any Chemist who has not one cannot do better than order it, as it is an ornament to any shop.

The following special parcels have been arranged to suit all classes of trade:—

PARCEL 1. 25/. 4 doz. 2d. 1 doz. 3d. 2 doz. 3½d. 3 doz. 4d. 2 doz. 6d.	PARCEL 2. 25/. 4 doz. 6d. 2 doz. 4d. 1 doz. 1s.	PARCEL 3. 25/. 3 doz. 3d. 2 doz. 1s. 1 doz. 4d.	PARCEL 4. 25/. 1 doz. 9d. 2½ doz. 1s. ½ doz. 1s. 6d.
PARCEL 5. 40/. 4 doz. 2d. 2 doz. 3d. 3 doz. 3½d. 5 doz. 4d. 4 doz. 6d.	PARCEL 6. 40/. 5 doz. 6d. 3 doz. 4d. 2½ doz. 1s.	PARCEL 7. 40/. 4 doz. 6d. 4 doz. 4d. 1 doz. 9d. 2 doz. 1s.	PARCEL 8. 40/. 4 doz. 1s. 2 doz. 9d. ½ doz. 1s. 6d.

THE FOLLOWING CAN BE RECOMMENDED AS GOOD VALUE:—

No. 112. Boxwood Draughtsman	...	3/3 doz.	SPECIAL LINE.
" 113. " Cartridge	...	3/6 "	17F. Very flat large
" 113R. " Reversible	...	3/6 "	Boxwood, a perfect
" 111. " Acorn, large	...	7/ "	pocket shape, 5/ doz.
" 8P. " " small	...	3/3 "	

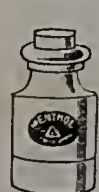
The following have directions printed on the cases—

No. 6. Boxwood Pedestal	...	3/6 dozen.	No. 17s. 6d. Boxwood Draughtsman	...	3/9 dozen.
" 11A. " " "	...	3/ "	" 17L. 1/ " "	...	6/6 "
" 14A. " " "	...	6/3 "	" 9s. 6d. " Skittle	...	3/6 "

Buyers of a gross and upwards can have their own Name and Address printed on any of above, free of charge.

PARTICULARS ON APPLICATION.

1d., 2d. and 3d. **MENTHOL CONES** for those who are obliged to sell Cheap Lines.



No. 110.



No. 110V.



No. 110P.



No. 115



No. 114.

No. 110. 1d. Bottle shape	...	3 dozen on card, 7/ gross.
" 110V. 1d. Vase	...	3 " " 7/3 "
" 110P. 1d. Pedestal	...	3 " " 7/9 "
" 114. 2d. Pedestal, varnished	3	" " 16/ "
" 115. 3d. Draughtsman shape	2	" " 20/ "

Above are carded by means of elastic—not glue.

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The object of this School is to impart to Students a thorough pharmaceutical and chemical education of the highest standard, and at the same time to fit them for passing the Minor and Major Examinations of the Pharmaceutical Society.

"This college claims to be the largest pharmaceutical school in Great Britain, and there is ample evidence that it is so, for since it was established about 2,500 have passed through it."—*Chemist and Druggist*.

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For Syllabus apply to Messrs. WILLS & WOOTTON.

CHEMISTS' CALENDARS FOR 1890.

Before ordering apply to us for SAMPLES. Chemists selling Seeds should send to us for SAMPLES of our STOCK SEED CATALOGUES. Do not forget to ask for our **NEW MINIATURE SEED LIST**—most compact and useful. Catalogues ready first week in November.

BLAKE & MACKENZIE, Medical Label & General Printers,
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HANDBILLS

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A PRACTICAL MANUAL OF VENEREAL AND GENERATIVE DISEASES:

Including SPERMATORRHOEA, PROSTATORRHOEA, IMPOTENCE, and STERILITY in Both Sexes.

By **M. K. HARGREAVES, M.D.**

Assistant Physician to St. John's Hospital for Diseases of the Skin.

LONDON: R. KIMPTON, 162 WARDOUR STREET, LONDON, W.

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Director:—Mr. MAURICE WILLIAMS.

The Course commenced on January 7th, 1890.
Laboratory open from 10 till 5. Thorough Tuition.

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3 Months' Course	6	6	0
6 Months' Course	8	8	0

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10s. 6d. per month, or Six months £2 2s.

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Assistant Demonstrator of Pharmacy.

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Each Tenable for Three months, with salary and free tuition for Major.

Prizes at the end of the Session.

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WHAT "VINOLIA" SOAP IS NOT.

Not simply a Neutral Soap.

"Vinolia" Soap is not simply a neutral soap, of which there are numberless kinds in the market. A soap may be neutral to-day and alkaline in three months. A soap may be neutral to the taste, and alkaline when you wash with it. "Vinolia" Soap is a de-alkalized Soap.

Not simply a Superfatted Soap.

An ordinary superfatted soap is merely a mixture of soap and fat. It would be absurd to suppose that "Vinolia" Soap is any such crude, simple mixture as this. It is an entirely different article, in which not only is there some extra cream but creamy neutralising matter in chemical combination. Any injurious action of the soap is thus provided against in a three-fold manner.

Not a Transparent Soap.

"Vinolia" Soap is not a transparent soap, but a natural soap, in which the desirable "body matter" has not been washed out with all manner of chemicals. In its manufacture no methylated spirits, resin, soda, sulphate, or soda chloride is employed. It is not as hard as a crystal, and wears away as slowly as any soap, producing a lovely emollient lather.

Not a Stimulating Soap.

We read of soaps which are alleged to be neutral and free from alkalies, and which in the same sentence are stated to be perfumed with terebinthinate essential oils, which are well known as highly stimulating in action, not only when taken internally, but when applied externally. Their blistering properties are known to all. The idea of removing a lesser evil in the form of alkalies only to substitute a greater one in the form of stimulating essential oils is of course absurd. "Vinolia" Soap is delicately scented with the least possible quantity of the most grateful and the safest of perfumes. It is absolutely non-irritating, and the blandest and most emollient of soaps. In other words, it is not first de-alkalized and then rendered irritating with essential oils of the coniferous order.

It is not a "Doctored-up" Soap.

"Vinolia" Soap is not rendered deleterious in its action by various colouring matters, mercurial compounds, lead, zinc, or other adventitious substances.

Not a Watered Soap.

One frequently hears complaints of the milk being watered, but very rarely of the soap being similarly treated. It is an indisputable fact that "the cow with the iron tail" has yielded as much soap as she ever did milk. Many may be startled to find that some soaps contain as much as forty per cent. of water. "Vinolia" Soap is de-hydrated, and in this respect, as in every other, leads the way.

Not an "Imitation Soap."

"Vinolia" Soap was not introduced to supply a demand created by somebody else, and is not the imitation, but the imitated. It is *sui-generis*, and the specious claims of the number of the brood of imitators which our enterprise has generated should be taken *cum grano salis*, and a good deal more.

Not a Dear Soap.

We have not pandered to popular prejudices, tastes, and false economy, by furnishing a poor soap at a price dear at any cost. Consequently we have not found it necessary to colour our soap and charge it with powerful scents in order to conceal any of the usual undesirable ingredients of toilet soaps. "Vinolia" Soap is made from the very choicest materials, and can be used with confidence and safety wherever soap is required in toilet or medical use.

Not a so-called High-Art Soap.

A soap may be advertised by a fine picture, but there is no necessary relationship between the two. The superiority of a picture is no guarantee whatever of the vendor's soap. We certainly do not frown on any enterprising modes of doing business, but we have made it a point from the first to always give a reason for the faith and hope that we had in our products; and this has been one secret of our success. In short, we have always made it a point to have some direct relationship between the nature of our advertisements and the properties and qualities of our products.

CAN BE OBTAINED OF ALL RESPECTABLE CHEMISTS.

Prices:—"VINOLIA," 1s. 9d. and 6s. per Box; "VINOLIA" POWDER, 1s. 9d., 3s. 6d., and 6s. per Box; "VINOLIA" SOAP (Toilet), 2s. 6d. per Box of 3 Tablets; "VINOLIA" SOAP (Medical), 2s. per Box of 3 Tablets.

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London Depot—RYLAND ROAD, N.W.

EXCHANGE COLUMN.

This section of "The Chemist and Druggist" must be closed for press by Thursday noon of each week. Remittances payable to EDWARD HALSE.

TERMS

Advertisements in this department must be paid for in advance. From this rule no deviation can be made. Insertions are charged at the rate of 1d. per word, provided the advertiser attaches his name and address, for each word of which he must also pay at the same rate; or if he pays 1d. per word, his name and address will be registered and a figure attached to his advertisement. All correspondence referring to that figure must be addressed to 'The Publisher of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.' and the figure must be distinctly endorsed upon the envelope. Letters will then be forwarded to their proper destination. A price is counted as one word, as e.g., £1 10s. 6d.

DEPOSIT OF MONEY.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us, accompanied by a commission of 6d. if the amount is £3 or under; and 1s. if over that sum. We acknowledge receipt of deposit to both parties, and hold the money until we are satisfied that either the goods are returned to their original owner or the purchase is completed.

Postal orders and cheques sent as deposit must be made payable to Edward Halse, and crossed "Martin & Co."

FOR DISPOSAL

Drugs and Chemicals.

Poppy Leads.—5s. 1,000; bag 6d.; sample 3d.; small for crushing, 1d. lb.; bags 6d. Connor, Chemist, Doncaster.

Surplus stock.—20 lbs. hard opium, 9s. lb.; 2 lbs. iodoform, 14s. lb.; 55 lbs. pulv. acid. tart., 1s. 3d.; 28 lbs. gum (good sorts), 1s. lb.; 5 lbs. bismuth carb., 7s. lb.; 7 lbs. cardamoms, 1s. 9d. lb. "Drugs," Llogdale in Cleveland.

Surplus stock.—About 1 cwt. powdered African ginger, 30s. cwt.; 3 lbs. tincture calumba, 1s. 9d. per lb.; 4 lbs. ammoniated tincture valerian, 2s. 6d. per lb.; two 1-lb. calcined magnesia, 1s. per bottle; 28 lbs. petroleum jelly, 3d. per lb.; all or part. 239/2.

Educational.

Evans' mahogany materia medica cabinet, 30s. or offer. Kerridge, 7 Poultry, E.C.

Sach's "Botany," 2nd edition; what offers? E. C. Robinson, 46 Fishergate, Preston.

Literature.

"Chemist and Druggist," 1836, 1887, 1888; lot 12s. Stead, Freshfield, via Liverpool.

Eleven vols. *Pharmaceutical Journal*, 5 vols. *Chemist and Druggist*, 2s. each. 242/10.

Formulae.

Reliable recipes, 6d. each; full set of 130 neatly copied in book, 7s. 6d.; send for list. "Chemist," Edwards, Wye, Kent.

The Coming Epidemic!—Recipes for "Punogent" and "Pino-balanic tincture" (London doctor's suggestion), which have given immense benefit in several cases and in others ward off the attack; has the advantage of perfect safety, easily prepared, and inexpensive; the two recipes for 2s. 6d., free. Tom Brooks, Park Pharmacy, Hornsey, N. List of 400 useful reliable formulae as advertised over 10 years, post free.

Shop Fittings.

Glass case fronted mahogany counter with drawers below; a bargain. 242/4.

Sponge case, handsome convenient, very cheap. "Chemist," 4 Newstead Grove, Nottingham.

Drug-drawers, wall and counter cases, shop rounds, percolator, homeopathics, and sundries. Clayton, Oxford.

Four 10-gallon pear-shaped carboys with spiral stoppers and round mahogany blocks. R. L., 83 Chichester Street, Ipswich.

The entire fittings, bottles, jars, &c., of a branch shop; suit beginner; valuation; also Pinder's pill machine and press, cost 12l. 12s.; offer. Palmer, Chemist, Lynn.

Four specie jars, perfect, equal to new, as fig. 1 in Maw's illustrations, gilt glass covers; height, exclusive covers, 21 inches; what offers? 241/41.

Second-hand fittings.—Great bargains.—Room wanted.—Several nests of chemist's drug drawers; sponge case as Maw's fig. A; two show jars 3 feet high as fig. 24; dispensing case as fig. 56, with mirror back; desk and case, counter drawers, &c. Apply, B. & G., 22 Gun Street, Brunshfield Street, Bishopsgate, London.

Glass show cases, shop rounds, and entire fittings of a chemist's shop for sale, together or separate, great bargains; nests of drawers from 30s.; bent glass counter cases from 21s.; very handsome show case, as Maw's A4, price 130s.; desks and sundry fittings, counters, &c., at Philip Joseph's, 54 Old Street, Goswell Road, London, E.C.

Glass bottles, job lines.—About 50 gross 3-oz. pale green pomades for corks, 4s. 6d. per gross; 2 gross 6-oz. screw nickel-capped pomades, 16s.; 1 gross 16-oz. ditto, 30s.; 3 gross 1-pint (reputed) green syrups, 7s.; 4 gross 1-pint ditto, 10s.; 2 gross 1-pint ditto, 15s.; 3 gross 1-pint ditto, 20s.; 3 gross 2-oz. white globe-necked panels, 7s. Hearn, 381 Kingsland Road, London.

The whole of a druggist's fixtures and fittings, consisting of 150 glass-knobbed, labelled, and 16 other drawers, 1 large glass case, 3 partitions, 1 large mahogany-topped counter, also smaller one, both fitted with shelves and drawers, 1 bent-glass counter-case, 1 cabinet case, 3 partitions, 144 gold-labelled N. M. and W. M. bottles, 40 and 20 oz.; 6 acid bottles, engraved labels, mahogany door, plate-glass window, 2 pairs Avery's scales and weights, 1 mahogany desk, 6 seed bins; window fittings, viz., 1 large show case, mahogany doors and 4 mirrors, 1 glass shelf, brass fittings and closet, 2 show bottles and 1 leech vase, 13 syrup bottles, 17 blue-lettered jars and 8 gold-labelled earboys, 2 pill-machines, pestle, mortar, &c., &c., large outside gas lamp; price for the lot 50l., original cost at least 150l. Apply, J. Hendersoo & Co., 71 High Street, Hull.

Miscellaneous.

Dental latho and water apparatus; almost new 242/2.

31 pairs Herbert & Godfrey's spectacles; 20 pairs steel folders; cost 5l.; what offers? 242/2.

Air bed, nearly new, 30s.; 5 seltzogene, 15s.; splendid counter scales, 12s. 6d. Routly, Eastbourne.

Microscopic slides; educational, medical, scientific, interesting, from 2s. 6d. dozen; lists free. B., 233 Maida Vale, W.

Mustard oil, Star of India brand, 10 doz. 2s., 9½ doz. 1s.; any reasonable offer to clear. 241/37.

Window attraction.—Mahogany stand, revolves by clockwork; height 24 inches, diameter 19 inches; 7 shelves; bargain; 25s. Pereira's "Materia Medica," complete, good condition, 15s. or offer. Griffith, Chemist, Canterbury.

WANTED.

B. P. formulae in rhyme. Thomas, 41 Nightingale Lane, Balham, S.W.

Squire's Companion P. B. and Art of Dispensing. Routly, Eastbourne.

About 16 doz. sharp rounds and jars. H. Brown, 2 Market Place, New King's Road, S.W.

Sequah's Indian oil and Prairie flower; state lowest price. Griffith, Chemist, Canterbury.

Bracher's still, tooth-brush case, Maw's A 10; counter case, A 18; state full particulars. 231/39.

Chemist's lamp, in fair condition; state description, price, &c., to Walker, 94 Harrow Road, London, W.

Several dental instruments required; upper and lower molars; good only; send list. 28 High Street, Plumstead, S.E.

Copies of the *Chemist and Druggist* for January 5, 1889. Publisher of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

Complete fittings and bottles, &c., for branch shop, 14 feet by 12 feet, ooo window. Robinson & Co., 63 Church Street, Hunslet, Leeds.

"Sunny South" cigarettes, any old stock; if known, state age; Chalkiadis's best, and other good brands; state quantities and prices. Compton, Woollacomba, Morthoe, North Devon.

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MANUFACTURERS OF ALL VARIETIES OF

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Increased action by the addition of Boracic Acid and a mild rubefacient, by which the activity of the cutaneous glands is stimulated, and their power of absorption increased.

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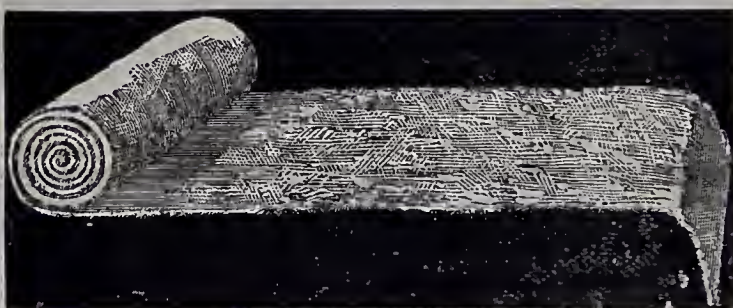
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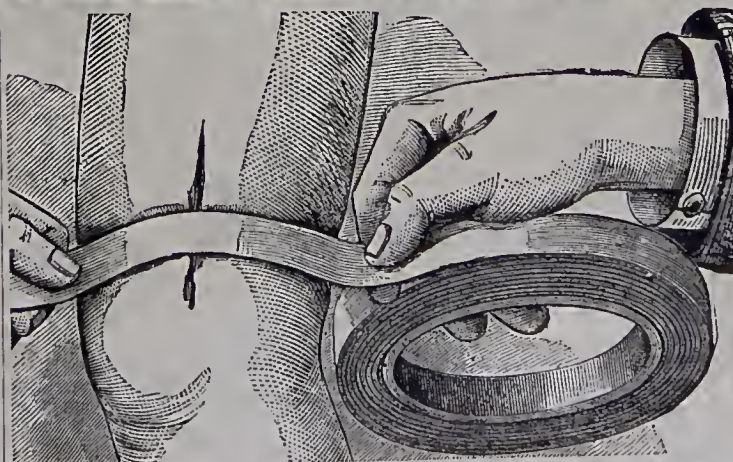
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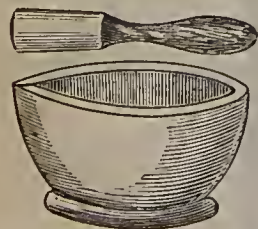
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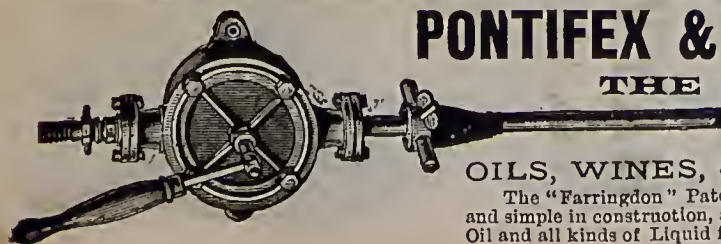
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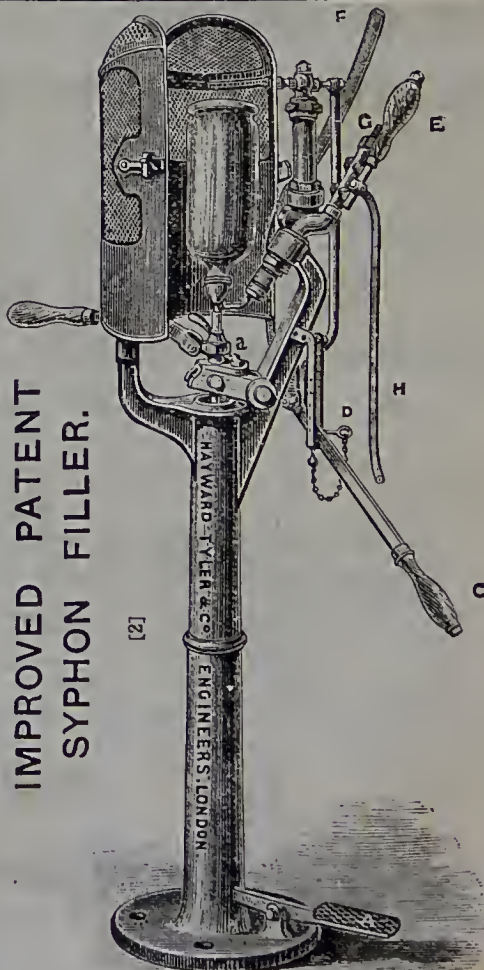


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[2]

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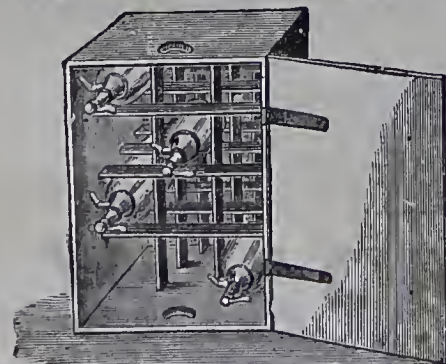
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Composed of Liebig's Extract of Beef, Extract of Malt,
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From the results of my Analyses of various Beef Wines I have had occasion to examine, none have equalled as regards strength, purity of ingredients, and (of no less importance) the skilful and judicious manner in which the respective ingredients have been proportioned and combined, the Liebig's Beef Wine manufactured by Mr. B. ROBINSON, of Pendleton, Manchester.

It is in every sense a reliable preparation, embodying in a pleasing and palatable form all the acknowledged medicinal and nutritive properties pertaining to Liebig's Extract of Meat, Extract of Malt, and sound Port Wine.

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December 15, 1888.

Introduced 1855.]

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One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopoeia, and free from all Chemical impurity. They will keep good any length of time in any climate.



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" Anisi " 4/ "	" Cassia " 4/ "	" Menth. Pip. " 4/ "	" Rosæ " 8/6 "
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The "BRITISH MEDICAL JOURNAL" says:—

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YORK, ENGLAND.

"CYMRU AM BYTH."

"ABSOLUTELY PURE,"



REGISTERED.

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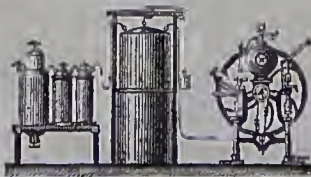
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Continuous " " " " £40
Syphons, first quality " " " " 1s. 8d.

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Pages 25—27.

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CONNAUGHT AND THE
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BOURNE WATERS.

THE PUREST IN ENGLAND.

R. M. MILLS & CO., BOURNE, LINCOLNSHIRE,

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SODA, POTASH, LITHIA, AND SELTZER WATERS,
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4-dozen and 6-dozen Cases Carriage Paid.

Special attention is invited to our manufacture of

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Each Bottle contains an average dose of Carbonate of Lithia—
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THE LATEST SPECIALITY—the Celebrated Artesian Bourne Water in
Pints and Quarts for Table Use.

Prices and Pamphlet on application Agents appointed.

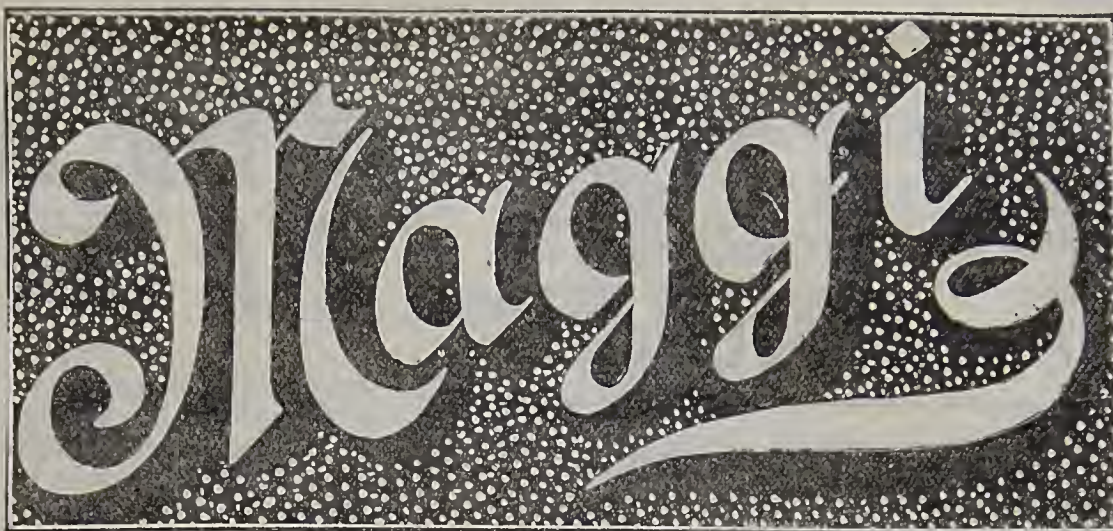
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RESTORER.**

**FINEST
CONSOMME.**

**HIGHEST POSSIBLE
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&c., &c., &c., &c., &c.



LIQUID EXTRACT OF BEST FRESH BEEF.

A happy thought does not alone constitute a perfect invention; simplicity is needed to make it perfect.

"MAGGI" possesses this quality in a degree that renders it as indispensable in the kitchen as salt and pepper.

"MAGGI" is simply liquid EXTRACT OF BEEF, a teaspoonful of which, added to a cup of hot or cold water, makes at once a perfect BEEF TEA, which anyone, sick or well, will relish.

Two tablespoonfuls to a quart of water (adding Vegetables, &c.) will make a better Soup or Potage than hours spent over the fire.

The improvement in the quality of Gravies, Ragoûts, Stews, Hashes, Roasts, &c., by the addition of a few drops of "MAGGI," is amazing.

Unlike all other Extracts of Meat, "MAGGI" is most delicious, does not need the addition of salt and pepper, can be used by the most inexperienced, produces as good a Consommé or perfect Clear Soup as any first-class cook can prepare by the most elaborate and expensive means, and keeps good in any climate.

Soup Stock is now rendered unnecessary, as "MAGGI" is better, cheaper, and more nutritious for the sick, convalescent, and healthy.

In 2-oz., 1-lb., & 2-lb. Bottles, of all Grocers and Druggists throughout the world.

Wholesale Agents—E. Lazenby & Son; Samuel Hanson, Son & Barter; W. & D. Harvest; Crosse & Blackwell.

PEPTONATE OF IRON

SOLE MAKERS

DENAYER'S PEPTONES CO. LTD.

PEPTONE OF MEAT

DENAYER'S

LIQUID PEPTONES STERILIZED

Free from microbes!
Keep good for ever in all climates.
118 BISHOPSGATE STREET WITHIN, LONDON, E.C.

A bland, non-irritating and most easily assimilable ferruginous preparation. For debilitated constitutions, children, and aged people.

A powerful restorative for all ailments of the stomach, stimulates general nutrition. Is retained when the stomach rejects all other food. Pleasant to taste.

Or all Chemists and Wholesale Houses.

CIGARS, ETC.

At the Lowest Wholesale Prices.

La Juana 10/6 per 100, Sold at 2d. each.
La Trafalgar 15/0 ,, ,, 3d. ,,
El Sol Habaners, } 22/ per 100, Sold at 4d. each.
Havannah 1885 Crop }
&c., &c. TOBACCO, CIGARETTES, &c.

Samples on receipt of 1s. 6d. in Stamps.

BEWLAY & CO., LTD.

Tobacco Manufacturers and Cigar Importers,

49 STRAND, and at 143 CHEAPSIDE, LONDON.

ESTABLISHED OVER 100 YEARS.

HUGO BROWN & CO.

41 Ormond Street, LIVERPOOL,

SOLE AGENTS IN EUROPE FOR LIEBIG'S

EXTRACT OF BEEF

MADE BY

**MESSRS. A. SANTA MARIA & CO.
PAYSANDU.**

Sold as imported in cases of two tins each, weighing together about 112 lbs.

EIGHT PRIZE MEDALS AWARDED

GOODALL'S HOUSEHOLD SPECIALITIES.

YORKSHIRE RELISH.

Most Delicious Sauce in the World. Bottles, 6d., 1s., and 2s. each

GOODALL'S BAKING POWDER.

The Best in the World. 1d. Packets: 6d., 1s., 2s. and 5s. Tins.

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One 6d. Tin is equal to 25 eggs. In 1d. Packets: 6d., 1s. 2s. and 5s. Tins.

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Delicious Custards without Eggs. In Boxes, 2d., 6d., and 1s. each

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Delicious Blancmange in a Few Minutes. Boxes, 6d. and 1s. each.

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Best Tonic yet Introduced. Bottles, 6d., 1s. and 2s. each.

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Makes the Best Ginger-Beer. Packets, 3d. and 6d.

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For Painting Stoves, Grates, Iron, Tin, &c. 6d. and 1s. Bottles

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A Rich and Lasting Perfume. Bottles, 1s., 2s., and 6s. each.

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Make a Delicious and Nutritious Jelly. In $\frac{1}{2}$ - and 1-pint boxes, 3d. and 6d. each.

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Monthly Price List of Patent Medicines, Druggists' Sundries, &c., will be sent post free on application to

GOODALL, BACKHOUSE & CO., LEEDS.

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The Directors are entertaining applications for the Agency for the Sale of the Company's Teas. A liberal Commission will be allowed. The appointments will be found to be most valuable, entailing little, if any, trouble, in addition to which, from the very extensive nature of the Company's advertising in all the principal newspapers and periodicals throughout the country, the appointment will be the means of bringing large numbers of customers to the Agent, who, when buying the Teas, will at the same time purchase other articles.

About 1,200 Agents have already been appointed; it has been decided to increase this number, until in every Town and Village in the Kingdom there is an Agent of the Company.

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IMPERIAL WAREHOUSE, LEMAN ST., LONDON DOCKS.

CHEMISTS' TEA AGENCY.

WALKER & DALRYMPLE'S

BROKEN-LEAF TEA, 1s. 8d. per lb.

A MONEY SAVING TEA. ABSOLUTELY PURE.

The small leaf from some of the finest India and China Teas. Produces a Tea in the cup, stronger, richer, and cheaper than most whole-leaf Teas. Agents appointed where unrepresented throughout the United Kingdom

WALKER & DALRYMPLE'S

INTERMEDIATE TEA, 2s. per lb.

BEST at the PRICE EVER SOLD. Great strength, and a most useful Tea where there is a large consumption. Recommended to all who wish to SAVE in their Tea. Agents appointed where unrepresented throughout the United Kingdom.

WALKER & DALRYMPLE'S TEAS.—

AGENTS APPOINTED, where unrepresented, throughout the United Kingdom.

Prospectus and Samples Free on Application.

Warehouses, 157, 159, and 160 WHITECHAPEL ROAD, and 2, 4, 6, 8, 10, 11, and 12 BRADY STREET, LONDON.

P.O.O. payable at head office. Bankers, the National Provincial Bank of England.



MARSHALL'S TWICE AWARDED GOLD MEDALS

FAROLA

AND OTHER PREPARATIONS OF WHEAT.

These Wholesale Houses supply the Goods at List Prices.

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MAY, ROBERTS & CO., 9 Clerkenwell Road, E.C.
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BOTTLE.



FIG. A.

INFLUENZA

CURED BY

MENTHOL.

Dr. T. LENNOX BROWN says:—"It kills the microbe of infection."

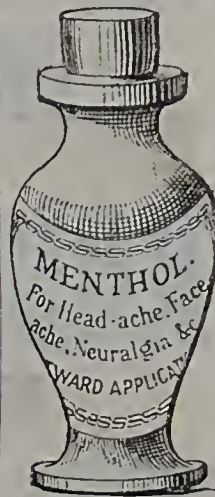
6/- per Gross PENNY PURE MENTHOL CONES.

BOTTLE OR VASE SHAPES.

2d. Size, 12/- per Gross.

(As Figs. A. or B., Stained and Varnished) All on $\frac{1}{4}$ -Gross Show Cards. Sample Free.

PETER TYRER,
70 LONG LANE, BOROUGH, LONDON, S.E.



VADE.



FIG. B.

BRAGG'S

Undoubtedly the most natural preventative and curative agent in all cases of Indigestion, Disorders of the Liver, Fevers, Cholera,

Dysentery, &c.

The trade cannot do better than keep these old-established and safe preparations under the notice of their customers.

VEGETABLE CHARCOAL.

Sold in Powder, 2/-, 4/-, and 6/- bottles; also in Biscuits, 1/-, 2/-, and 4/- tins (Children like these), and in Lozenges, 1/1½ tins (portable and convenient).

SOLE MANUFACTURER—

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SHOW CARDS AND COUNTER BILLS ON APPLICATION.

WILKINSON'S COMPRESSED

They are introduced to the public to enable them to make their own HOP BITTERS, YEAST, HOME BREWING, and numerous other purposes. Full particulars given in each packet.

Samples and Prices sent on application to

A. WILKINSON & SONS, 37 CANNING PLACE, LIVERPOOL.

P.S.—Chemists will naturally see the great advantage in making their own Bitters from the Pure Hop itself.

Dealers in every description of Isinglass.

ENGLISH HOPS.

Best Hops compressed into small parcels of one pound and half-pound, and sent out in cases containing 30 lbs. each. These hops are specially selected and compressed for keeping purposes, and will retain their aromatic strength for a considerable time.

"RAMORNIE."

LIEBIG'S Extract of Meat.

As supplied to the Admiralty, War, and India Offices.

1-lb. Jars..... per lb.	6/9	per doz.	81/0	2-oz. Jars..... per lb.	7/8	per doz.	11/6
3-lb. Jars..... "	7/0	"	42/0	1-oz. Jars..... "	8/4	"	6/3
2-lb. Jars..... "	7/3	"	21/9	1/2-oz. Jars..... "	8/8	"	3/8

QUOTATIONS FOR EXTRACT IN "BULK" ON APPLICATION.

Write for Detailed Price List to the Australian Meat Co, 9 and 11 Fenchurch Avenue, E.C.

6 lbs. Carriage Free.

DRUGGISTS' CONFECTIONERY.

ROBERT GIBSON & SONS,

Medicated Lozenge Manufacturers,
CARLTON WORKS, ERSKINE STREET, HULME, MANCHESTER,
 1 Australian Avenue, London, and 44 Alter Wall, Hamburg.

GIBSON'S SUPERIOR BOILED SUGARS

Have gained a High Reputation everywhere. **FOR EXPORT TRADE.** They are put up in 1-lb., 2-lb., and 5-lb. Bottles. Packed in Casks or in 1-doz. Cases as required, and delivered F.O.B. at any Port in England. These Sweets are absolutely pure. We specially recommend

Lime Fruit Tablets, Everton Toffy, Mixed Fruit Drops, Cough Drops, Raspberry Drops, Lemon Tablets.

CACHOU PEARLS,

Musk, Rose, Mint, and other Flavours. In 1-lb. White Glass Bottles. Bottles free

COMPRESSED CHLORATE OF POTASH PELLETS, SACCHARINE PELLETS,

And PELLETS of every description, put up in 1-lb. White Flint Glass Bottles, with Boxwood Top Corks. Bottles not Charged.

HIGH-CLASS LOZENGES

OF EVERY DESCRIPTION.

Chlorodyne Cough Lozenges, Chlorodyne Jujubes, Peppermint Lozenges,

In every variety of size and strength. Curiously Strong, and Multum in Parvo Mints give the utmost satisfaction. Medicated Lozenges of Pharmacopœia Strength.

DIGESTIVE TABLETS. VOICE AND THROAT LOZENGES for Singers and Public Speakers.

ORIGINAL SUGAR WORM CAKES

Have an immense sale, both at home and abroad; will keep in any climate, and give entire satisfaction. Put up in Tins containing 3 doz., 6 doz., and 12 doz. cakes.

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(As per T. H. Pharmacopœia).

All Lozenges are sent out in 2-lb. and 4-lb. Bottles (bottles free), but allowed for if returned.

PROPRIETARY LOZENGES CAREFULLY PREPARED, STAMPED, AND CUT TO ANY SIZE OR SHAPE.

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E. C. RICH COMPANY, Limited, Agents, United States,
 AND
Mr. THOS. LAKEMAN, 34 Pitt Street, Sydney, for Australia.

Telephone Number, 1852.

Telegraphic Address—CHEMICUS LONDON.

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Smith, T. J.
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Rankin and Sons (Cork Mats)
Sanger and Sons
Schmitze, F., and Co.
Thompson, Walters, Hole & Co.
Toogood, W.
Wood, Vincent

DRUMS, CANS, &c.

Noakes and Co.

EAU DE COLOGNE

Farina, J. M.
Mann, C. A., and Co.
Shirley, A. W.

ELASTIC HOSE

Wood, V.

ELECTRIC APPAR.

Berry, F. H.
Darton, F., and Co.
Gent and Co.
Orme and Co.

EMBROCATION

Elliman, Sons and Co.

ENAMEL

Fordham, W. B., and Sons

ENEMAS

Bailey, W. H., and Son
Ingram and Son
Lynch and Co.
Maw, Son and Thompson, S.
Sanger and Son
Schmitze, F., and Co.

ENGRAVERS

Barker, W., and Son
Corsan, J. E. (Glass)

ESSENTIAL OILS

Bush, W., Son and Co.
Cocking (Japan Peppermint)
Cummock, J.
Duckworth and Co.
Evans, Sons and Co.
Fitzsimmons and Fearnley
Frattoli de Pasquale and Co.
Hodgkinson, Treacher and Clarke
May and Baker
Stevenson and Howell
Symes and Co.
Treat, R. O.
Warwick Brothers
Wright, Layman and Umney
Vogt, G., and Co.

ESSENCES

Beckett, W.
Bratby and Hinchliffe (Ld.)
Burgoyne, Burdidge and Co.
Bush, W. J., and Co.
Cummock, J.
Duckworth and Co.
Fitzsimmons and Fearnley
Goodall, Backhouse and Co.
Hay, W.
Idris and Co.
May and Baker
Oldfield, Pattinson and Co.
Stevenson and Howell
Tyner, P. (Anchovies)
Woolley, Sons and Co.

ETHER

Duncan, Flockhart and Co.
Howards and Son
May and Baker
Robbins

EXTRACTS, FLUID

Allen and Hanbury
Barber, G., and Co.
Burgoyne, Burdidge and Co.
Evans, Sons and Co.
Fletcher, Fletcher and Stevenson
Heaton, Squire and Francis
Hooper, B., and Co.
Moss and Co.
Oldfield, Pattinson and Co.
Potter and Clarke
Wright, Layman and Umney

EXTRACT, MEAT

Australian Meat Co.
Bovril (Limited)
Brand and Co.
Brown, Hugo, and Co.
Lewy's Peptone Co.
"Maggi"

EUCALYPTUS

Downie B. I. P. Co.
Tucker, J., and Co.

FEEDING BOTTLES

Breiffte, E. and Co., Lim.
Evans, Sons and Co.
Hearn, E. A., and Co.
Hockin, Wilson and Co.
Kilber Bros.
Maw, Son and Thompson, S.
Marriot, E., and Co.
May, Roberts and Co.
Thompson, Walters, Hole and Co. (Limited)
Toogood, W.

FLY PAPERS

Ford, Shapland and Co.

FILTERING

Andrews, R. W.
Doulton and Co.
Lipscombe and Co.
Mawson, Swan and Weddell
Silicated Carbon Filter Co.

FOOD (Infants & Invalids')

Allen and Hanbury
Baelz, R., and Co.
Bovril (Limited)
Brand and Co.
Brass, J. L. (Charcoal Biscuits)
Goodall, Backhouse and Co.
Heaton, Squire and Francis
King, F., and Co., Lim.
Liebig Co.
"Maggi"
Marshall, J.
Mottershead & Co. (Benger's Food)
Nestle, H.

GINGER ALE

Hay, W. (Essence)
Mills, R. M., and Co.

GLYCERINE

Fink and Co.
Fuerst Bros.
Price's Candle Co.
Van Geelkerken and Co.

GRANULAR PREP.

Curtis and Co.
Evans, Sons and Co.
Heaton, Squire and Francis
Hill, A. S., and Son
Kerfoot, T.
Wright, Layman and Umney

GUM

Fink (Arabic, &c.)
Hyde, Nash and Co.
Knight and Co.
Levermore Aug., and Co.
Prunk, Davis and Co.

GUTTAPERCHA

Duncan, Flockhart and Co.

HAIR PREP.

Brodie, J. (Imperial Hair Dye)
Chesebrough Mfg. Co.
Edwards and Co.
Rosene Manufacturing Co.
Trueitt, H. P. (Lumigen)

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Newball and Mason
Oldfield, Pattinson and Co.
Potter and Clarke

HERBALISTS

Butler, McCulloch and Co.
Newball and Mason (Extract of Herbs)
Potter and Clarke (Extract of Herbs)
Wilkinson, A., and Sons (Compressed Herbs)

HOMOEOPATHIC

Epps, J., and Co.
Gould, E., and Son
Keene and Ashwell
Leath and Ross
Thompson and Copper
Watson and Wates

HOPS

Wilkinson, A., and Sons

HOP ALE ESSENCE

Hay, W.

HYPHOSPHITES

Duncan, Flockhart and Co.
Dunn and Co.
Fletcher, Fletcher and Co.
Symes and Co.
Type and King

HOSPITALS

Bollagbroke House
London Homoeopathic

INHALERS

Anderson and Adams
Evans Sons and Co.
Godfrey and Cooke
Hockin, Wilson and Co.
Maw, Son and Thompson, S.
Schmitze, F., and Co.
Toogood, W.

INSECTICIDES

Sanford and Co.
Stolner and Co.
Vogt, G., and Co.

INK [See MARKING]

Bawley and Draper
Duncan, Flockhart and Co.

JELLIES (TABLE)

Southwell, O., and Co.

KETCHUP

Tyner, P.

LAMPS

The Wigham Co. (Limited)

LARD

Ewen, J.

LESCHE'S

Fitch and Nottingham

LIME JUICE

Evans, Sons and Co.
Idris and Co.

LINT

Liverpool Lint Co.
Maw, Son and Thompson, S.

LIQUORICE

Robinson and Sons
Seabury and Johnson

LOZENGES

Allen and Hanbury
Blyton, Astley and Co.
Gibson, E., and Sons (Manfr.)
Hill and Son
Kerfoot, T.
Martindale, W.
Pascall, J.
Raines and Co.
Randall and Son
Warwick Bros.

MACHINERY

Beyer Freres.
Burroughs, Wellcome and Co.
Carter, J. H.
Goodall, E. F.
Holroyd & Co. (Limited)
McFerran, J. A.
Mellin, C. (Capsuling)
Pontifex and Wood
Werner and Pfleiderer

MAGNESIA

Andreas, Oscar, and Co.
Brash, W., Son and Co.
Dinnerford

MALT EXTRACT, &c.

Baelz, R., and Co.
Burroughs, Wellcome and Co.
Carter, J. H.
Goodall, E. F.
Holroyd & Co. (Limited)
McFerran, J. A.
Mellin, C. (Capsuling)
Pontifex and Wood
Werner and Pfleiderer

MARKING INKS

Barber, G., and Co. (Orimston)
Hickinson, J.

MEDICINE CHSTS

Day, Son and Hewitt (Veterinary)
Day and Sons (Veterinary)

MENTHOL

Al Menthol Depot, A. W.
Shirley, Proprietor
Cocking and Co.
Hockin, Wilson and Co.
Maw, Son and Thompson, S.
Shirley, A. W.

MERCURIALS

Fuerst Brothers
Howards and Son
May and Baker

METHYLATED

SPIRITS

Burrough, J.
Harvey, J. W., and Co.
Jones and Co.
Phillips, G., and Co.

METHYLENE

Robbins, J., and Co.

MICROSCOPES

Darton, F., and Co.
Perken, Son and Rayment

MILK

Nestle, H. (Condensed)

MIXING

MACHINERY

Bracher and Co.
Carter, J. H.
Werner and Pfleiderer

MORPHIA

Macfarlan, J. F., and Co.
Smith, T. and H.

MUSTARD

Johnson, J. H. and S. (Ess. Oil)

OILS, PAINTS, &c.

Anglo-American Oil Co. (Lim.)
Colthurst and Harding
Fox, W., and Sons
Prunk, Davis and Co.

OPTICIANS

Darton, F., and Co.
Perken, Son and Rayment
Raphael, J., and Co.

ointment BASES

Burroughs, Wellcome and Co.
Chesebrough (Vaseline)
Grindley (Petroleum Jelly)

OPHTHALMIC

Pomies, Dr.

OTTO OF ROSE

Fuerst Bros.
Shipkoff and Co.
Treat, R. C.

PEPSINE, &c.

Burroughs, Wellcome and Co.
Fletcher, Fletcher and Stevenson
Newberry and Sons
Warner and Co. (Inglavin)
Zimmermann

PAPAIN FINELER

Kuhn, B.

PARALDEHYDE

Zimmermann, A. and M.

PATENT AGENTS

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Horn and Son

PATENT MEDONS

Alofas Co.
Armbrrecht, Nelson and Co.
Atkinson and Barber (Infant Treaserv)
Barclay and Sons (Limited)
Beschay (Pills)
Braggi and Co.
Cronin, F. H. (Wafers)
Da Silva and Co.
Edwards and Son
Evans, Lescher and Webb
Fennings (Powders)
Goodall, Backhouse and Co.
Grosgrain, C.
Holloway (Pills and Oint.)
John's Liver Pills
Kemp, W. H.
Lalor (Phosphodyns, &c.)
Lincoln (Clark's M.I.)
May, Roberts and Co.
Newberry and Sons.
Oil of Olive Co.
Powell, A. E. and Co. (Moxseed Bitters)
Radmond's Stomach Wash
Roberts and Co. (Pain)
Rosene Manufacturing Co.
Squash (Limited)
Smith, Sam
Swift's Specific Co.
Warner, H. H., and Co.
Wilson, A. (Bunter's Nervin e)

PERFUMERY,

FANCY SOAPS

Blondeau and Co.
Burroughs, Wellcome and Co.
Chesebrough Manufacturing Co.
Chiswick Soap Co.
Cook, E., and Co.
Coward and Co.
Dee Oil Co. (Limited)
Durrant, Geo.
Evans, Sons & Co. (Foscoline)
Ewen (Soaps)
Farina, J. M.
Foulkes, W. J.
Giraud Fils
Greensill, T. R., and Son
Johnson and Co.
Mann, O. A., and Co.
Maw, Son and Thompson
Mouilla Liquid Soap Co. (Lim.)
Newberry and Sons (Rardies)
Osborne, Bauer & Cheeseman
Pears'
Price's Patent Candle Co.
Rosene Manufacturing Co.
Rouse & Co.
Sainsbury, S. (Lav. Water)
Shipkoff and Co.
Shirley, A. W.
Steedman, J.
Taylor, J. N.
Thompson, Walters, Hole and Co. (Lim.)
Treat, R. C.
Trueitt, H. P. (Limited)
Vigis, L.
Violet
Vogt, G., and Co.
Warwick Brothers
Wedlake, M.
West, T. (Ockell's Moss)
Woolley, Sons & Co. (Powder)

PETROLEUM

Anglo-American Oil Co. (Lim.)
Dee Oil Co. (Limited) (Jelly)

PEPPERMINT OIL

Cocking and Co.

PEROX. OF HYDR

Dunn and Co.
Robbins and Co.

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Allen and Hanbury
Baelz, R., and Co.
Barron, Squire and Co.
Billault
Brady and Martin
Burgoyne, Burdidge and Co.
Burroughs, Wellcome & Co.
Chanteau, G.
Chasseing and Co.
Dee Oil Co. (Limited)
Duncan, Flockhart and Co.
Farris and Co.
Fletcher (Liquor for Syrups)
Frucau, E.
Giles Schacht & Co.
Greiff, B. W., and Co.
Heaton, Squire and Francis
Hewlett and Son
Hill, A. S., and Son
Hooper, B., and Co.
Howards and Son
Keith (Cono. Tinctures)
Lorenz, H.
May and Baker (Phenacetins)
Rankin and Corland
Rigoles and Co.
Roberts and Co.
Symes and Co.
Tucker, J., and Co.
White, Alfred, and Sons
Willows, Francis and Butler
Woolley, Sons and Co.
Wyleys (Various)

PHOTOGRAPHIC

American Camera Co.
Hotwright and Grey
Howards and Son (Chemicals)
Marion and Co.
May and Baker
Orme, J., and Co.
Parken, Son and Rayment
White, Alfred, and Sons

PINE PRODUCTS

Burroughs, Wellcome and Co.
Stern, G. and G.

PILLS (Coated, &c.)

Allen and Hanburys
Beecham, Thomas
Eade's Gout Pills
Evans, Sons and Co.
Holloways
McKesson and Robbins
Newbery and Sons
Penny Quinine
Richards, J. M.
Towle, E. T.
Warner, W. R. & Co. (Coated)
Wyleys and Co.

PILL MACHINES

Pindar, J. W.
Robertson, J., & Co. (Coating)
Toogood, W. (Coater)

PLASTERS

Cooper and Co.
Evans, Sons and Co.
Johnson and Johnson
Mather, W.
Quilliam, J., and Co.
St. Dalmas, A. De
Seabury and Johnson
Thompson, M. F.
Young, H.

PODOPHYLLIN, &c.

Keith, B., and Co.
Smith, T. and H.

POLISHING

Bradley & Bourdax (Albatur)
Fordham, W. B., and Sons
(Limited)
Oskey, John, and Sons
Griffiths, T. M.

PORCELAIN GOODS

Toogood, (E. & Co. Pots, reglet.)

PRINTING

Bowers Bros.
Cyclostyle Co.
Davis, J., and Co. (Limited)
Ford, Shapland and Co.
Silverlock, H.
Townsend, J.
Zuccato and Woolf.

PUMILINE

Stern, G. and G.

QUININE SALTS

Andrese, Oscar, and Co.
Boehringer, O. F., and Sohne
Howards and Sons
Kuhn, B.
Rivers, Hicks (Penny Quinine)
Zimmermann and Co.

RENNET

Duncan, Flockhart and Co.
Johnson and Jørgensen
Oldfield, Pattinson and Co.

RESPIRATORS

Arnold and Sons
Hockin, Wilson and Co.
Schintze, F., and Co.

SACCHARIN

Allen and Hanburys
Burroughs, Wellcome and Co.

SALICIN

Macfarlan and Co.
Smith, T. and H., and Co.

SALICYLIC ACID

Fuerst Bros. (Kulbe's)

SALOL

Kuhn, B.

SAUCES, PICKLES

Goodall, Backhouse and Co.
Tyrer, F.

SCHOOLS, &c.

Bailey and Coates
Central School of Chemistry
and Pharmacy
City School of Chemistry and
Pharmacy (Lim.)
Liverpool School of Pharmacy
London Homoeopathic and
Medical School
Manchester College
South London School of
Pharmacy, Lim.
The School of Pharmacy
Westminster College

SOAP

Blondeau and Co. (Vinolla)
Oblewick Soap Co.
Cook, E., and Co.
Fordham, W. B., and Sons
Pears' Soap
Stern, G. and G.

SELTZOGENES

Bratby and Hinchliffe, (Ld.)
Evans, Sons and Co.
Geraut, E. and Co.
Idris and Co.
May, Roberts and Co.

SHEEP DIP

Fletcher, Bros. and Co.

SHOP FITTERS

Bowling and Govier
Bygrave, J. and W.
Oorsan, J. B.
Evans, Sons and Co.
Hawke and Son
Howlett, S.
Natali, E. (Show Cases)
Poths, H., and Co.
Treble, G., and Co.
Treble, G., and Son
Yates, W. S.

SPONGE

Harris and Co.
Maw, Son & Thompson (Bags)
Peterson, M., and Co.

SPIRIT

Burroughs (Pure and Methyl.)
Harvey, J. W., and Co.
Jones and Co. (Methyl.)
Macnair, A., and Co.
Macnair, J. and D., and Co.
Phillips and Co.
Smith, Stephen and Co.

SPECTACLES

Botwright and Grey
Darton, F., and Co.
Perken, Son and Rayment
Raphael and Co.

STAMPS (RUBBER)

Hickiss, J.
Pollard, A. W.

STOPPERS

Anstin and Co. (Sprinklers)
Barnett and Foster
Sanders, H. G., and Son

STOVES

Clark, S. and Co.

SURGICAL

Ayrton and Saunders
Bailey, W. H., and Son
Barclay and Sons (Limited)
Cooking, J. T.
De Luca, G. V.
Eschmann Bros. and Walsh
Haywood, J. H.
Ingram and Son
Liverpool Patent Lint Co.
Meathier and Co.
Robinson and Sons
Schutze, F., and Co.
Schoenfeld Frères
Thompson, Walters, Hole and
Co. (Limited)
Wood, Vincent
Woolley, Sons and Co.

STARCH

Critchley (Gloss)

SUGAR

Gibson, R., and Sons

SULFONAL

Burroughs, Wellcome and Co.
May and Baker

SYPHONS

Barnett and Foster
Bratby and Hinchliffe (Ld.)
Favarger and Co.
Fevre, T.
Kilner Bros.
Prudon and Dubost

SYRINGES

De Luca, G. V.
Schoenfeld Frères

SYRUPS

Fletcher, Fletcher (Liquors)
Idris and Co.

TILL

Stokes, G. R. & Co.

TIN CANISTERS

Noakes, B., and Co.

TEA

Cave, Johnson and Co.
French and Langdale
Gt. Tower St. Tea Co.
Santha Tea
United Kingdom Tea Co. (Ld.)
Walker and Dalrymple

TORAC.—CIGARTS

Bewlay and Co.
Peacock, M. & R.
Taddy and Co.

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Bailey, W. H., and Son
Berry, F. H.
Darton, F., and Co.
Perken Son and Rayment

TOILET

Fordham, W. B., and Sons
Hopgood and Co.
Mumford, G. S.
Quelch, H. C.
Simon, J.
Truefitt, H. P. (Limited)
Vigis, L.

TOOTH PASTE

Jewsbury and Brown
Maw, Son and Thompson, S.
Quelch, H. C.
Sutton, O., and Co. (Block)
Wilson, A. (Bunter's)
Woods, M. (Aroca)

TRADE MARKS

Dukes, B.
Horn and Son

TRUSSES

Ayrton and Saunders
Bailey, W. H., and Son
Haywood, J. H.
Wood, V.

TYPE-WRITING

Pollard, A. W.
Richards, J. M.

URETHANE

Howards and Sons

VACCINATION

Vaccine Association (Lymph)

VALUERS AND**TRANSF. AGENTS**

Berdie & Co.
Brett, F. J.
Crocker, G. B.
Greenwood, S.
Orridge and Co.

VERMIN KILLER

Battle, J. R.
Sanford and Son
Steiner and Co.

VASELINE

Chesebrough Manufacturing Co.

VETERINARY

Ilraggi, P., and Co.
Day and Sons
Day, Son and Hewitt
Elliman, Sons and Co.
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Mère de Chantilly, P.
Spratts (Dogs)
Sutton, F., and Co.
Walker, Troke and Co.
Wyleys and Co.

VINEGAR

Newham and Pickard

VINOLIA

(Superfatted Medical and Toilet)
Blondeau and Co.

WHOLESALE AND**EXPORT DRUGS**

Allen and Hanburys
Barron, Harvey and Co.
Brothers, J. and Co.
Burgoyne, Burdidges and Co.
Bush, W., Son and Co.
Clay, Dod and Co.
Coward, G. F., and Co.
Davy, Humphrey and Co.
Evans, Sons and Co.
Evans, Lecher and Webb
Evans and Sons (Limited)
Faulding, F. H., and Co.
Ferris and Co.
Fox, W., and Sons
Goodall, Backhouse and Co.
Harker, Stagg and Morgan
Hearson, Squire and Francis
Hewlett and Son
Hill, A. S., and Son
Hodgkinsone, Treacher and
Clarke
Lofthouse and Selmer
Macfarlan, J. F., and Co.
Oldfield, Pattinson and Co.
Potter & Clarke (America)
Sumner, H., and Co.
Symes and Co.
Thompson and Capper
Thompson, Walters, Hole and
Co. (Limited)
Walker, Troke and Co.
Willows, Francis, and Butler
Woolley, Jas., Sons and Co.
Wright, Layman and Umney
Wyleys and Co.

WINES, SPIRITS

Coleman and Co. (Meat)
Durrant, G. (Orange) Mal.
Goodall, Backhouse and Co.
Harvey, J. and W., and Co.
Ioris & Co.
Jones and Co.
Millar, A., and Co.
Phillips, G., and Co.
Robinson, B.
Smith, S., and Co. (S.V.B.)

USE

LIEBIG

COMPANY'S

EXTRACT

OF MEAT.

**** Ask for the COMPANY'S Extract, and see that it bears Justus von Liebig's SIGNATURE IN BLUE INK across the Label.**

"Profitable Business"

If you desire "Profitable Business" we warmly recommend to your notice our 6" Boxes of Boice Pills of Cocain Pot. Chlor & Borax.

If you handle our Jajubes and Kashelles you will consider it "Profitable Business" because they do not stick together but are light, and will please your customers.

It is "Profitable Business" to deal in our Bronchial Lozenges, because your friends will tell you they "will not be without them."

"Profitable Business" may be done in our Chlorodyne lozenges, because they are good, and reasonable in price.

If hither to you have no account with us you will find it "Profitable Business" to have a place in our ledgers, because we are in business, to do business and consider our customers in every detail.

If you are a buyer of Chlorodyne and wish it to be "Profitable Business" ask for samples and prices of ours, which has been before the trade for Twenty Years

Blyton Astley & Co.

Manufacturing Pharmaceutical Chemists
Manchester.

TABLOIDS of COMPRESSED DRUGS

LONDON.]

JANUARY 11

[1890.

SULPHONAL TABLOIDS.

This new hypnotic is now proclaimed to be the most satisfactory of those in present use. Being utterly devoid of any toxic action, it produces "calm and natural sleep," without affecting the heart's action or causing gastric disturbance. Dr. Lander Brunton, in the Croonian Lectures, 1889, spoke highly of Sulphonal as an hypnotic. "It is one of the most effective of all the recently introduced hypnotics. It does not compel sleep like morphine, but induces it in a pleasant manner, and has few disagreeable after-effects and no danger. Paraldehyde imparts an unpleasant odour to the breath for a long time after taking it. Sulphonal does not depress the heart's action like Chloral."



A leader in the *British Medical Journal* of November 2, 1889, respecting Sulphonal, says:—"It produces a quiet sleep from which the patient awakes refreshed."

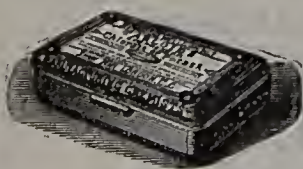
The insolubility of Sulphonal in cold water is its great drawback, and, this being observed, the Tabloids were introduced, each containing 5 grains of Sulphonal in an impalpable powder. When the Tabloids are crushed in any *warm* fluid they completely dissolve, and may be given to the patient without exciting suspicion.

Sulphonal Tabloids (5 gr.)—the most eligible form of the drug—are supplied in bottles containing 25 and 100, at 12s. and 36s. per dozen (subject to fluctuation of the market).

Sulphonal (Bayer) supplied to the trade at 1s. 6d. per oz. (subject to the fluctuation of the market).

CHLORATE OF POTASH TABLOIDS.

By using the Tabloids the drug is effectually brought in contact with the oral mucous surfaces as a continuous gargle, and its specific action made certain. In acute sore throat Chlorate of Potash "usually relieves the uneasiness in a few hours" (Cohen). "It is used in ulcerated mouth and follicular pharyngitis, and has been employed in croup, diphtheria, and spasm of the larynx" (Brunton).



"Of convenient size, they are beautifully made; and, as they dissolve slowly in the mouth, are well suited for throat affections."—The LANCET.

Supplied to the Trade in beautifully graven white metal boxes, blue silk label, at 4s. and 8s. 6d. per dozen. Retail prices, 6d. and 1s. each.

VOICE TABLOIDS.

Composed of COCAINE, Chlorate of Potash and Borax.

Impart a clear and silvery tone to the voice. Easily retained in the mouth while singing or speaking. Now used by the leading singers and public speakers throughout the world.



DIRECTIONS. — A single Tabloid may be slowly dissolved in the mouth to remove huskiness or hoarseness.

Supplied to the Trade in beautifully graven white metal boxes, with blue silk labels, at 8s. and 16s. per dozen. Retail prices, 1s. and 2s. per box.

CHLORATE OF POTASH & BORAX TABLOIDS.

The Tabloids afford an agreeable form in which to administer Chlorate of Potash and Borax.

Supplied to the Trade in beautifully graven white metal boxes, with pink silk labels, at 4s. and 8s. 6d. per doz. Retail prices, 6d. and 1s.

TABLOIDS prepared by B. W. & Co.

Aconite Tinct., 1 min.
 Aloin, 1/10 gr.
 Ammon. Bromide, 5 and 10 gr.
 Ammon. Chloride, 3, 5 and 10 gr.
 Ammon. Chloride with Borax.
 Anil.-Oon- { Stryoh. 1/50 gr.
 stipitation { Belladon. Ex. 1/8 gr.
 { Ipecac. 1/16 gr.
 Antifibrin, 2 gr.
 Antimony Tartrate, 1/50 gr.
 Antipyrin, 5 gr.
 Apomorphine Mur., 1/50 gr.
 Arsenious Acid, 1/100 and 1/50 gr.
 Atropin Sulph., 1/100 gr.
 Belladonna Tinct., 1 min.
 Bismuth Sub-nit., 5 and 10 gr.
 Blue Pill.
 Borax, 5 gr.
 Caffein Citrate, 1 gr.
 Calcium Sulphide, 1/10 gr.
 Calomel, 1/10 and 1 gr.
 Capsicum Tinct., 1 min.
 Cascara Sagrada Ext., 2 gr.
 { Cascara Sagrada Ext. (Dry), 1 gr.
 { Eucalyptin, 1/2 gr.
 { Nux Vomica Ext. 1/16 gr.
 Cathartic Comp., U. S. P.
 Charcoal, 5 gr.
 Chloral Hydrate, 5 and 10 gr.
 Cocaine, Potash and Borax (Voice)
 Creos. Aromat. cum Opio Pulv., 5 gr.
 Digitalis Tinct., 1 min.
 Digitalin, 1/100 gr.
 Dover Powder, 1/4 and 5 gr.
 Eucalyptin Resin, 1/8 gr.
 Hydrarg. cum Creta (Grey Powder), 1/3 gr.
 Hydrarg. Iod. Rub., 1/20 gr.
 Hydrarg. Iod. Vir., 1/8 gr.
 Hydrarg. Perchlor., 1/100 gr.
 Hydrarg. Subchlor. (Calomel), 1/10 and 1 gr.
 Hyosciamus Tinct., 1 min.
 Ipecac. and Opium (Dover Powder), 1/4 and 5 gr.
 Ipecac. Powder, 1/40 and 5 gr.
 Iron and Quinine Cit., 3 gr.
 Laxative Vegetable.
 Lithia Carbonate, 2 gr.
 Manganese Dioxide, 2 gr.
 Morphine Sulph., 1/20 and 1/8 gr.
 Nitroglycerine.
 Nux Vomica Tinct., 1 min.
 Opium Tinct. (Laudanum), 2 min.
 Papain, 2 gr.
 Pepsin, Pura (Fairchild).
 Pepsin Saccharated, 5 gr.
 Peptonio.
 Phosacetin, 5 gr.
 Pilocarpin Mur., 1/20 gr.
 Podophyllin Resin, 1/4 gr.
 Potash Bicarb., 5 gr.
 Potassium Bromide, 5 and 10 gr.
 Potash Chlorate, 5 gr.
 Potash Chlorate with Borax.
 Potash Nit. (Sal Prunella), 5 gr.
 Potash Permanganate, 1 and 2 gr.
 Potassium Iodide, 5 gr.
 Quinine, 1/10, 1/2, 1, 2, 3 and 5 gr.
 Quinine Sulphate, 1 gr.
 Iron Hypophosphite, 2 gr.
 Acid Arsenious.
 Strychnine Sulphate, aa 1/50 gr.
 Saccharin, 1/100 gr.
 Rhubarb, 3 gr.
 Rhubarb Comp. (Pil.), 3 gr.
 Rhubarb Comp. Pulv. (Gregory Powder), 5 gr.
 Rhubarb and Soda, 5 gr.
 Saccharin, 1/2 gr.
 Salicin, 5 gr.
 Salol, 5 gr.
 Santonin, 1/2 gr.
 Soda Bicarbonate, 5 gr.
 Soda-Mint (Soda, Ammon. Carb. & Mint)
 Soda Salicylate, 3 and 5 gr.
 Strophanthus Tinct., 2 min.
 Sulphonal, 5 gr.
 Sulphur Comp. (Dr. Garrod's Formula)
 Tannin, 2 gr.
 Test Tabloids (Fehling's).
 Thirst.
 Tinct. Camph. Co. (Paregoric), 2 min.
 Tinct. { Iron Pyrophosph., 2 gr.
 Tonic Comp. { Quinine Sulph., 1 gr.
 { Strychnine Sulph., 1/100 gr.
 Trinitrine (Nitroglycerine), 1/100 and 1/50.
 Trinitrine and Amyl Nitrite.
 Trinitrine, 1/100 gr.
 { Nitrite of Amyl 1 gr.
 Trinitrine Comp. { Capsicum, 1/50 gr.
 { Menthol, 1/50 gr.
 Urethane, 5 gr.
 Voice (Potash, Borax, and Cocaine).
 Warburg Tincture, 30 mins. in each.
 Zinc Sulphate, 1 gr.
 Zinc Sulpho-carb. 2 gr.
 Zymine Tabloids.
 Zymine Comp. Tabloids.

These pure and palatable Tabloids of Compressed Drugs are supplied in convenient packages for dispensing and at moderate prices.

BURROUGHS, WELLCOME & CO., SNOW HILL BUILDINGS, LONDON, E.C.

Above Prices subject to usual Discount.

"VASELINE," in 1d., 2d., & 3d. TINS.

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NONE OTHER GENUINE.

1d. Tins, One Gross in Wood Box	at 8/- per Gross net.
2d. Tins, One	"	"	" 16/-
3d. Tins, Half	"	"	" 24/-

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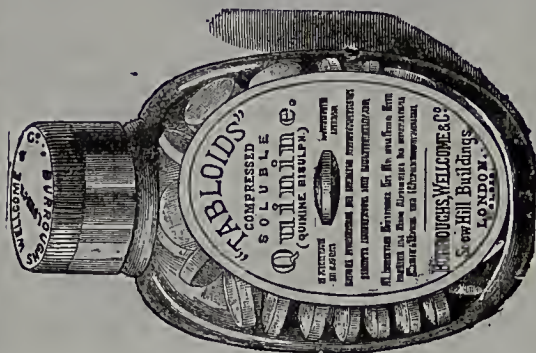
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QUININE TABLOIDS.

The Tabloids of Compressed Soluble Quinine are now prescribed by the leading physicians of Europe in preference to any other form of the drug, in the treatment of fevers and all other cases in which Quinine is



indicated. They dissolve and act on the system quicker than ordinary pills or powders, they are easier to swallow, and can be dispensed by Chemists at the same price that they charge for powders.

Quinine Bisulphate, 1 gr., Vinalgrette style (oval)	Doz.
bots., 50 in each	1/0 8/6
" " " " " " " " " " " "	1/6 12/0
1 gr., Vinalgrette style (oval)	1/0 8/6
bots., 36 in each	1/0 8/6
1 gr., 100 in bottle	1/9 15/0
2 gr., Vinalgrette style (oval)	1/0 8/6
bots., 24 in each	1/0 8/6
3 gr., 100 in bottle	1/9 15/0
3 gr., Vinalgrette style (oval)	1/6 12/0
bots., 24 in each	1/6 12/0
5 gr., 100 in bottle	3/6 27/0
5 gr., Vinalgrette style (oval)	2/0 16/0
bots., 24 in each	2/0 16/0
5 gr., 100 in bottle	5/0 43/6
5 gr., Vinalgrette style (oval)	4/0 36/0
bots., 24 in each	4/0 36/0

Quinine Sulph., 1 gr.
Ferri Hypophos., 1/2 gr.
Acid Arsenios., 1/50 gr.
strychnine Sulph., 1/100 gr.
Saccharin, 1/100 gr.

Supplied by all Wholesale Houses.
Above Prices subject to usual Discount.

BURROUGHS, WELLCOME & CO.
Snow Hill Buildings, London, E.C.

ISO-BUTYL NITRIS.

Also GLASS CAPSULES of ISO-BUTYL NITRITE.

For use in Angina Pectoris, Asthma, and similar complaints, by Inhalation.

Liquor Cascaræ Suavis.

(REGISTERED.)

An agreeable Aromatic Fluid Extract of *Cascara Sagrada*, possessing the full laxative and aperient properties of the Bark.

Sol. Æthyl Nitritis.

Containing 3 per cent. of Pure Nitrite of Ethyl, in Absolute Alcohol and Glycerine.

See paper by Professor LEECH on "The Comparative Effects of Spiritus Ætheris Nitrosi and Solution of Ethyl Nitrite," *Pharmaceutical Journal*, December 22, 1888.

Spiritus Ætheris Nitrosi.

Guaranteed to contain the proportion of Nitrous Ether directed by the British Pharmacopœia.

Æther Nitrosus and Sol. Ætheris Nitrosi.

Respectively 8 and 4 times the strength of the Spirit.

JAMES WOOLLEY, SONS & CO.

Manufacturing Pharmaceutical Chemists,

MANCHESTER.

Laboratories and Drug Mills, KNOWSLEY STREET, CHEETHAM.

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ESTABLISHED 1858.

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Supplied regularly to every member of the following Societies, who have adopted THE CHEMIST AND DRUGGIST as their official organ:—

The Pharmaceutical Society of New South Wales.

The Pharmaceutical Association of New Zealand.

The Pharmaceutical Society of Queensland.

The Pharmaceutical Society of South Australia.

The Hobart Chemists' Association.

The Launceston Pharmaceutical Association.

South African Pharmaceutical Association.

For Australasian subscribers the subsidiary journal, THE CHEMIST AND DRUGGIST OF AUSTRALASIA, is included.

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POST-CARD COMPETITIONS, 1890.—No. 1.

We shall carry these post-card competitions on through the year if sufficient interest is manifested in them among our subscribers. It is to be understood in all cases that replies must be sent in on post-cards only; that subscribers, their families, or their employes alone are eligible; and that answers for competition must be in our possession by the last day of the month in which the subject has been commenced.

For January we offer the usual guinea for the best

OUTLINE OF AN HOUR'S LECTURE

such as it might be useful for a chemist and druggist to deliver to a school, literary institute, or miscellaneous audience. The post-card should indicate the title of the lecture, and present a skeleton of the treatment, with references to illustrative experiments or exhibits if it should be thought fit to introduce these. We do not lay down any limits as to the topics to be chosen, but it is expected that all the outlines of lectures sent in will be on a subject bearing some relation to the occupation of the pharmacist.

LONDON DRUG STATISTICS.

THE following figures refer to the stocks of the principal drugs in the port of London on December 31, 1889, and to the imports and deliveries during the whole of 1889, as compared with the preceding year:—

Article	Stocks		Imported		Delivered	
	1889	1888	1889	1888	1889	1888
Aloes ..os & pkgs	8,238	6,989	4,466	7,375	3,217	6,108
".....gourds	1,344	2,048	378	814	1,083	4,444
Anise, Star ..chts	71	139	40	100	103	141
Arrowroot .....cks	11,216	10,879	13,757	13,025	13,417	15,104
".....bxs & tins	5,094	7,860	1,880	5,421	4,646	7,607
Balsams ..cks, &c.	2,278	192	295	164	661	567
Bark (Cinchona),						
S.American cases	462		14		58	
bls. &c.	32,103		12,901		15,071	
E.I., Ceylon, and		56,754		63,470		71,718
Java .....cs	401		1,004		1,193	
bls. &c.	24,215		48,018		45,712	
Borax.....pkgs	477	614	64	717	205	827
Calumba	1,884	1,844	1,008	1,164	963	1,972
Camphor	23	927	2,762	6,452	3,876	7,103
Cardamoms ..chts	1,320	576	3,323	2,656	2,588	2,837
Coco. Ind. bgs, &c.	172	349	120	812	297	749
Cream of Tartar cks	10	13	31	22	34	22
Cubebs .....bgs	309	124	662	572	477	561
Dragon's Blood cchts	144	80	206	180	142	179
Galls, China, &c. os	880	1,863	2,721	8,891	3,966	8,689
Turkey, &c...sks	3,737	2,717	9,515	7,301	8,495	7,641
Gums—						
Ammoniac pkgs	91	125	9	13	43	118
Animi & Copal						
pkgs	9,689	4,885	13,910	8,502	9,208	7,982
Arabic.....	21,962	19,617	30,627	34,459	28,193	25,997
Asafoetida..	411	349	931	452	869	553
Benjamin ..	2,094	1,887	3,481	3,196	3,274	2,767
Damar	5,200	2,552	7,613	4,736	5,934	5,624
Galbanum..	34	—	14	—	—	—
Gamboge ..	63	93	284	197	314	210
Guaiacum ..	—	16	115	22	131	13
Kino	114	87	66	73	33	77
Kowrie ....tms	1,397	1,397	2,667	3,265	2,658	2,873
Mastic ....pkgs	60	33	59	67	30	135
Myrrh.....	448	512	387	573	481	615
Olibanum ..	3,759	2,728	8,426	7,241	7,354	8,430
Sandarac ..	784	749	939	1,349	1,372	1,702
Tragacanth ..	7,378	3,709	9,012	7,893	7,372	6,094
Ipecac. ..cks & bgs	2,8	10	1,101	512	947	724
Jalap .....bls	71	87	1	182	17	245
Lac Dye .....chts	5,699	5,880	—	20	181	611
Nux Vomica pkgs	467	1,128	1,581	2,263	2,231	1,672
Oils—						
Anise.....os	82	21	318	158	245	195
Cassia.....	23	39	320	171	340	234
Castor .....cks	393	365	1,370	440	1,552	751
".....os	3,216	7,213	6,454	12,147	10,256	12,614
Cocoa-nut.....tms	2,618	1,490	5,634	4,866	4,434	5,191
Olive ..cks, &c.	787	310	4,170	1,980	3,732	2,299
Palm .....tms	20	61	95	223	135	370
Opium ..chts, &c.	—	1,617	—	1,066	—	1,554
Rhubarb.....chts	849	1,023	1,367	1,408	1,541	1,612
Safflower ....pkgs	453	632	72	644	208	334
Sarsaparilla.....bls	278	456	1,177	1,423	1,285	1,414
Senna .....bls, &c.	3,158	1,931	5,122	4,134	3,850	4,779
Shellac, Orange						
chts, &c.	40,830	46,488	20,145	36,799	26,257	31,993
Garnet..	9,892	15,209	6,776	9,726	11,836	9,437
Button..	6,160	7,807	6,901	7,671	9,573	11,050
Total ..cheets	56,882	69,502	33,822	54,196	46,666	52,480
Sticklac ..chts, &c.	3,076	3,655	1,150	1,818	1,901	3,146
Gambler .....tms	733	1,157	9,476	9,819	9,901	10,485
Cutch	2,579	3,018	3,867	5,734	4,648	3,671
Turmeric ..	2,569	3,197	584	1,788	1,237	1,156
Vermilion,chts, &c.	19	12	131	90	128	141
Wax, bees' ..bls &						
suns	714	526	1,920	383	1,732	456
".....cks & cs	919	1,129	2,951	2,517	3,099	2,914
".....cakes	24	17	219	43	105	10
"Japan....pkgs	1,638	1,345	1,483	1,914	1,286	1,446

* The stocks of anise and cassia oils lying at Smith's Wharf and Brewer's Quay are not included in this return.

† No returns of opium have been made this month.

BLUE SOAP, rendering the employment of bluing in laundry work unnecessary, is made by incorporating with ordinary soap a solution of aniline green in strong acetic acid. By the action of the alkali of the soap the green is converted into blue, uniformly colouring the mass.

Metropolitan Reports.

CHEMISTS' ASSISTANTS' ASSOCIATION.—Instead of the ordinary meeting at the rooms of the Association on Jan. 30, Mr. F. J. Hanbury has invited the members to spend a botanical evening at his private address, 69 The Common, Upper Clapton.

THE LIBERTY MUSICAL SOCIETY (Burroughs, Wellcome & Co.) held their second smoking concert on Tuesday night. There was a smaller attendance than usual, no less than four of those who intended to perform being absent. Mr. Dearle Astill presided, and an excellent concert was opened by a pianoforte overture from Mr. Heinrich Helbing, F.C.S.

SOUTH LONDON SCHOOL OF PHARMACY (LIMITED).—The annual meeting of this company took place on Monday evening last, Mr. H. W. Bailey in the chair. The report of the School Management Committee showed an increase in the number of students to the extent of 20 per cent. over last year. A dividend at the rate of 6 per cent. on the "A" shares, and of 10 per cent. on the "B" shares was declared. A vote of thanks was passed to the examining members of the Council of Education, and to the teaching staff for the excellent results obtained during the year 1889.

THEY MET AND DINED.—The country, town, and foreign representatives of Messrs. Cresswell Brothers, 1 and 2 Red Lion Square, W.C., with the principal members of the counting-house staff, dined together on Saturday last. The occasion was interesting owing to its being the first time that all the travellers had found themselves at headquarters at one time. Mr. Ernest Cresswell was in the chair, and Mr. T. R. Vermont in the vice-chair. The company enthusiastically responded to the toast of "Prosperity to the Firm," and with songs and sentiment passed a most pleasant evening.

ALLEGED THEFT OF MILK.—A well-dressed, apparently respectable man, giving the name of Richard Thomas, described as a chemist, of Russell Villa, Seven Sisters Road, was charged at the Marylebone Police Court, on Tuesday, with stealing a quart of milk, value fivepence. It was alleged that he drew the milk from the can on a trolley in the street, drank it, and that when asked to pay ran off. He was overtaken and given into custody. When asked by the Magistrate what he had to say, the prisoner replied that he had nothing to say, except that he did not take the milk. That statement he repeated, so Mr. De Rutzen told him he must make that defence to a jury, and committed him to take his trial.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor will much oblige.

BIRMINGHAM.

THE CHEMISTS' BALL.—The nineteenth annual ball, promoted by the Midland Counties Chemists' Association, will be held on January 23 at the Edgbaston Assembly Rooms. The gathering is now one of the most popular of the year, and the forthcoming dance is likely to be quite as successful as any of its predecessors.

CHEMISTS AND THE INFLUENZA.—The leading chemists in the city have had an unusual run upon their cough mixtures during the last fortnight, and in many cases have been asked for "something to prevent influenza," but neither from doctors' prescriptions nor any other source have cases of unmistakable influenza come under their notice. They are inclined to believe that a great deal of fuss has been made over nothing.

A PHOSPHORUS FIRE.—On Tuesday evening the Fire Brigade was called to the premises of Messrs. Newton and Robinson, manufacturing chemists, 5 and 6 Aston Road. They found that a fire had broken out on the second floor of

a two-storeyed workshop, in which there was a quantity of phosphorus. The fumes of the phosphorus made it very difficult to reach the seat of the fire, and it was not until the windows had been broken and a hole had been made in the roof that effective work could be done by the brigade. In about forty minutes the fire was completely extinguished, when it was found that the only damage done was to the floor and shelves of the room in which the phosphorus was stored. The fire is believed to have been caused by the upsetting of some of the phosphorus. The premises are insured. The members of the brigade suffered considerable discomfort subsequently from the poisonous fumes which they had to inhale.

THE ACTION AGAINST QUACK DOCTORS.—At the Birmingham County Court on Wednesday, before his Honour Judge Chalmers, the case of the Apothecaries' Society against William Welch, of Hurst Street, trading as "J. & W. May & Co.," to recover penalties for illegally practising, was mentioned. Mr. Stanbury-Eardley, on behalf of the defendant, applied that the case might be tried by a jury. He said the time for calling a jury in the ordinary course had expired, and it was necessary to get his Honour's sanction to the case being heard by a jury. It was desirable that the dispute should be heard in this way, as the question to be decided was one of fact, namely, whether there had been a sale of medicines or not. The defendant absolutely disputed the facts alleged by the petitioners. Dr. Showell Rogers opposed the application. He said the matter to a considerable extent depended upon questions of law. His Honour refused to grant the application.

CARDIFF.

MESSRS. JESSE WILLIAMS & Co., pharmaceutical chemists, who commenced business in Cardiff at 7 Park Hall Buildings about five years ago, have taken two other of the large shops in the same buildings, and are having them knocked into one. When completed it will form one of the largest chemist's shops in the provinces.

LIVERPOOL.

GUM ARABIC.—A large consignment of gum from Niger has arrived in Liverpool, amounting to 2,500 cases. It comprises 40 varieties and qualities, some good, others very inferior.

ANCIENT BOOKS.—At the Soirée, on Wednesday, there was an exhibition of ancient works, illustrative of Alchemy and Ancient Chemistry, dating from the time of Moses to the middle of the eighteenth century. The exhibitors were Professor J. Campbell Brown and Mr. A. Watt, F.I.C., F.C.S.

INFLUENZA EPIDEMIC.—Up to date only two or three cases which have been verified as of the Russian or Asian type have occurred here. The symptoms are "splitting headache," aching of the eyes, especially when turned sideways, cough and sneezing, not very pronounced at first, but soon becoming violent, loss of appetite, with a great feeling of emptiness, temperature 100° to 103°, or over, usually higher in the evening than in the morning. A hot bath, two or three days in bed, quinine, and a moderate quantity of good champagne seems to be the best treatment.

MANCHESTER.

MANCHESTER PHARMACEUTICAL ASSOCIATION.—Mr. W. Elborne, who has for a number of years acted as the colleague of Mr. H. Wilson in the secretaryship of this Association, has intimated that he proposes to leave Manchester shortly, and will consequently have to be relieved of the secretarial duties. As much of the success of a society depends on the way the office of secretary is filled, it is hoped that an active, popular man may be found to succeed Mr. Elborne, whose departure is a source of much regret to all who are familiar with the great and continuous interest he has shown in our local organisation.

SATISFACTORY.—In the annual report issued last Saturday by Mr. C. J. Dibb, Official Receiver for this district, the occupations of the bankrupts who have passed through his hands are classified, and the list does not include a single druggist.

Equally satisfactory is the absence of any case of drug adulteration from the quarterly report of Mr. J. Carter Bell, the public analyst, submitted to the Salford Town Council at its meeting on Wednesday.

THE WORKHOUSE DISPENSERSHIP.—The post of dispenser of drugs at the Manchester Workhouse, recently advertised in our columns, has been filled by the appointment of Mr. Charles Henry Cross, who is at present dispenser at the Workhouse at Walton, near Liverpool. He enters on his duties on the 15th inst. There were eighty-nine applicants for the berth.

SEQUAH BURLESQUED.—Our Manchester correspondent writes:—One of the most laughable scenes in our Queen's Theatre pantomime of "Robinson Crusoe" is one which has in it a burlesque of Sequah's methods of work. The connection of the Sequah "business" with what precedes or follows it is not quite clear, but in pantomime it is perhaps too much to expect that such connection shall be apparent. Be that as it may, Squire Atkins, one of the characters in the pantomime, takes occasion to explain to the people gathered around him on the island on which Robinson Crusoe has landed, that he has discovered a wonderful remedy for rheumatics and other ailments. Beginning by assuring his audience that he has nothing up his sleeve—as a matter of fact, his sleeves are so short that he could have nothing up them—he goes on to dilate on the wonders of his medicine, and says that in proof of his statements he will proceed to extract a few teeth. In an accent supposed to be American, he asks that any ladies or gentlemen in the audience desirous of parting with their teeth should step on to his caravan—he begs pardon, his "gilded chariot"—and have them extracted. Not from the audience, but from the side wings, there emerge Simple Simon (described on the playbill as a boy to be depended on—at meal times) and Silly Billy (a lad warranted to turn his hand to anything—that does not belong to him), and one of them wants some of his teeth extracted. Once again asking the audience to take his word of honour that there is absolutely nothing up his sleeves, Squire Atkins ties over his forehead a lamp resembling a policeman's lantern, arms himself with a Brodingtonian pair of pincers, and sets the house in a roar by his method of extracting imaginary teeth. The patient smiles benignly—looks, indeed, as if the thing were such a pleasure to him that he is only sorry he cannot get the whole of his teeth extracted. The other of the two grotesques is then treated with the medicine. The medicine, which in appearance resembles water after it has been used in washing a kitchen floor, is contained in a metal pail, and it is poured into the patient by means of a funnel stuck into the band of his pants. When the medicine had had time to work, he was asked to report, and he stated with great gravity that before he came on to that caravan ("gilded chariot," Squire Atkins remarks in correction) he felt that he had not a month to live, and now he felt that he had not a week—a statement which was, of course, provocative of much mirth. When the laughter had ceased Squire Atkins turned to the front of the house and said, with a tone of pride, "You hear what one of your honoured citizens says. But remember," he went on to say, "we do not come here to sell these medicines—we shall give them away in bottles. I shall now give you another illustration of what the oil can do." Then Mrs. Crusoe, with face screwed up and otherwise a picture of agony, is carried in on stretchers. Simple Simon and Silly Billy hold a shawl in front of her, and Squire Atkins, having handed in to her a large black hottle, goes on with his lecture about the merits of the medicines. Over the top of the shawl the audience see the bottom of the black bottle, and they also hear a smacking of lips which suggests that Crusoe's widow has applied the medicine internally. By-and-by, while the lecture is being continued and the band is discoursing slow music, there are thrown over the top of the shawl a jacket, a pair of corsets, a pair of stockings, and other articles of female attire. A few minutes later the shawl is drawn aside and Widow Crusoe is seen, clothed and radiant, sitting on the stretcher on which before she could scarcely lie. In reply to various questions put to her by Squire Atkins, she explained that the rheumatics had altogether left her. Her age was 19, she had lived in Angel Meadows for fifty years (Angel Meadows stands to Manchester in the same relation-

ship as Whitechapel to London), she had been to all the hospitals in the city, and to the veterinary surgeon's, but all was of no avail. Had she been to the Dogs' Home? Yes, and they had discharged her as incurable. "I suppose the Cats' Refuge would not pass you?" Squire Atkins ventured to inquire, but the widow treats the question with silent contempt. Anyway, she had been to all those places and not till now had she got anything to cure her. Asked to show how well she is, she gets up from the stretcher, knocks Squire Atkins and Simple Simon all over the stage, and makes her exit. Squire Atkins is at first minded to go after her, but second thoughts prevail. He says he "will not seek where she has gone." The atrocious "seek-where" pun brought the episode to an end, and the pantomime proceeded merrily on its course.

SHEFFIELD.

PHARMACEUTICAL AND CHEMICAL SOCIETY.—A meeting was held on Wednesday in the Whiteley Institute, Mr. A. Russell Fox, President, in the Chair. There was a poor attendance, which Mr. Fox ascribed to it being the festive season. Mr. J. H. Bradwall read a paper on the "Metric System," in the course of which he fully described its use in France, and commended its advantages to chemists and tradesmen in general. He then touched on the "over-pressure" at the board-schools, which he attributed mainly to the difficulty in teaching arithmetic on account of our complicated system of weights and measures. He concluded by expressing the hope that ere long the metric system would be adopted in the Pharmacopœia, and thus render it a scientific work, which it could hardly be called at present. The paper was listened to with great interest, and at the close Mr. R. Watts, in disussing the paper, remarked that on coming back to the English system, after being accustomed to the metric system in Paris, he found it very irksome.

SOUTHAMPTON.

POISONING A WORKHOUSE DISPENSER.—On January 2 Sidney Perry, the lad who was accused of attempting to poison Mr. Adams, dispenser at the Southampton Workhouse, and his family, by pouring atropine into the breakfast kettle, pleaded guilty at the local quarter sessions to administering with intent to annoy. The Recorder said there was no evidence to show that the prisoner intended to take life, and accepted the plea. The prisoner's friends offered to take charge of him, and he was ordered to come up for judgment when called upon.

IRELAND.

DEATH.—On January 2, Mr. Edward Walker, L.P.S.I., aged 24, senior member of the staff of Messrs. Hamilton, Long & Co., State apothecaries, Dublin.

PROFESSOR REYNOLDS, F.C.S., delivered last week at the Royal Dublin Society an able lecture on "What our World is Made of," and illustrated his subject by a number of highly successful chemical experiments.

THE value of Irish drug contracts may, perhaps, be estimated by taking a sample of by no means an expensive district, that of Newry, the cost of supplying medicines, surgical appliances, &c., for the past year amounting to a total of 1,806*l*.

For stealing property valued at 3*l*. from the veterinary establishment of Messrs. Freeman, Dawson Street, Dublin, a man named Dunne has been sentenced to two months' imprisonment. The prisoner, in mitigation of his offence, pleaded that at the time of the occurrence he was *non compos mentis* by a draught of methylated spirits.

MATCHES AND MUSIC.—The woods of the famous "Vale of Avoca," county Wicklow, have been purchased by an English match company for the sum of 6,800*l*. sterling. The best of the timber will be used for the manufacture of soap boxes, and the smaller branches will be converted into lucifers.

THE BALLYMENA POISONING CASE.—As a result of the Government chemical analysis of portions of the body of William McClintock, whose wife has for some time been in

custody on a charge of poisoning, the examination having failed to discover either mineral or organic poison in any of the organs, tissues, or fluids, the accused woman has been liberated.

THE INFLUENZA.—The chemists say they are exceptionally busy in consequence of this recent visitor; one of the chief pharmacies compounded last week no fewer than 1,960 prescriptions; and, as *la grippe* shows no sign of abating, there is every prospect of an exceptionally busy winter trade for apothecaries and medical men.

PAY YOUR MONEY AND TAKE YOUR CHOICE.—An advertisement is appearing daily in the Irish papers eulogising the virtues of a Corkonian compound for promoting the growth of the hair, in respect of which the enterprising discoverer states he has received no fewer than 60,000 testimonials. Following which is a note that an equally effective "hair destroyer" is sold as a companion mixture.

PHARMACEUTICAL SOCIETY.—A meeting of the Council was summoned for Wednesday, January 1, at the Society's rooms, 11 Harcourt Street, Dublin, at three o'clock, but a quorum of seven members not attending no business was transacted. The following gentlemen attended:—The President (Mr. Charles Evans), the Vice-President (Mr. Wells), Dr. Burnes, and Messrs. Doran, Montgomery (Belfast), and Merrin.

CONTRACTS.—Wholesale druggists are notified by the Commissioners of Irish Lights that they are prepared to receive, not later than Friday, January 17, tenders for the supply of 38,000 gallons of mineral oils, a 5-gallon sample of which must be forwarded carriage-paid, the contractor to deliver consignments at stated ports throughout Ireland. The guardians of the Rathdown Union also invite tenders for a year's supply of drugs, medicines, surgical and medical appliances, the usual stipulations regarding quality, quantity, &c., being *en évidence*. Tenders for a year's supply of drugs, medicines, and medical appliances are invited by the board of directors of the Cork Fever Hospital and House of Recovery.

A SHEEP-DIP CASE.—The *Dublin Evening Mail* (January 3, 1890) reports a case tried at Parsonstown, on January 2, before Mr. Fitzgerald, Q.C., County Court Judge, and a jury. It was an action brought by a farmer named John Staunton against Messrs. Kelly & Kirby, agents at Frankford, King's County, for "Cooper's Sheep Dip," to recover damages, laid at 40*l.*, for breach of warranty, and for the loss of twelve sheep, which the plaintiff alleged had died after being washed in Cooper's dip. The defence was that the sheep were lost through the negligence of the plaintiff, and not owing to any deleterious ingredients in the dip when used with proper and reasonable care. After the case had been fully heard, Judge Fitzgerald said he had no hesitation in holding that there had been no breach of warranty by the defendants. They had merely sold to the plaintiff a well-defined article for which he had asked. There was no warranty at all implied in the transaction, and therefore the plaintiff must be nonsuited.

SCOTLAND.

ABERDEEN.

CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION.—The first social meeting for the session of this Association was held on Friday, December 27, in the North Silver Street Hall. The meeting was numerously attended, and Mr. Seivwright, treasurer, occupied the chair. The proceedings for the evening were commenced by a selection on the piano, by Mr. Duncan, who played the accompaniments to the songs throughout, followed by a prologue, composed for the occasion by Mr. MacWilliam. Afterwards a lengthy programme was gone through, consisting of songs, solos, duets and quartets, recitations, piano and violin selections. The songs were popular and appropriate, and generally well-sung. Messrs. Bowie, Spence, and Adam, as soloists, were particularly successful, and were repeatedly encored. The good humour of the company was heightened by the readings and recitations, which were mostly of a comic nature. The violin duets by Messrs. Tough and Young were decidedly the principal feature of the evening, and, together with Mr. Boddie's piano

selections from the "Yeomen of the Guard," completed the success of a most enjoyable evening, which was thereafter brought to a close by the company singing "Auld Lang Syne" in true Scottish fashion.

BURNTISLAND.

Mr. JAMES BISSET, chemist, is opening a branch establishment in the popular Fife summer resort, Aherdour. Until now, pharmacy has not been represented in the village.

DUNDEE.

A PANTOMIME FEATURE in the local theatre is the announcement by the Edinburgh Drug Store Company on the drop curtain to the effect that "All doctors' prescriptions are dispensed by them at half-price," &c.

CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION.—A "musical and social evening" was held on Friday, January 3, Mr. Jno. W. Russell in the chair. There was a large turnout of assistants and apprentices, along with their friends, and also several local chemists. An excellent programme was gone through, and in the course of the evening coffee and lemonade were provided, the latter a gift from Mr. D. Nicoll, Fleuchar Craig. At the meeting to be held on Thursday, January 16, at 9.15 P.M., a Paper by Mr. Peter MacEwan, entitled "How to Prepare for the Minor," will be read.

CARRYING VITRIOL.—The commonest means of carriage in this town is the lorry, which is a kind of dray without sides to it. Scarcely a day passes when one does not see one of these lorries loaded with carboys of vitriol, and more than the timid have dreaded what the result would be if a loadful of the corrosive fluid should meet with a mishap. It is evidently with the view of preventing anything of the kind that the local prosecutor has given notice that the carriage of vitriol on lorries without sides is illegal, and he is prepared to make an example of anyone who persists in such dangerous practice.

THE EPIDEMIC.—For some weeks past ordinary catarrh has been prevalent here, and about 75 per cent. of the victims have been under the impression that they are suffering from the great continental epidemic. It is only within the last two or three days, however, that any cases have come under notice where the physician diagnosed the malady as being Russian influenza. Now that it has arrived it will doubtless cause some stir in our large public works, some of them employing over 4,000 people, as during the last epidemic these had all to be closed. Salicin, quinine, and antipyrin are the favourite remedies of the younger race of practitioners, while the older men are sticking to aconite, and acetate of ammonia.

A LIMIT OF GRACE.—Four Dundee chemists, who had permission from the Inland Revenue authorities to sell Coleman's Liebig's meat and malt wine, pending their application at the licensing court for a certificate to get a regular licence, have had their deposit money refunded and the Excise indulgence to sell withdrawn, owing to their failing to appear before the last licensing court. All four pleaded forgetfulness, and promised to come up at next court if the board would continue their kind indulgence till that time. But the Inland Revenue authorities were firm in refusing an extension of their temporary indulgence, and peremptorily ordered the sale of the wine to be discontinued at once.

EDINBURGH.

FESTIVITY.—On the evening of the 3rd instant the assistants in the wholesale department of Messrs. Duncan, Flockhart & Co. held their annual social meeting. Mr. R. Dick and Dr. Inglis Clark (members of the firm) were present, the former occupying the chair. In the course of some remarks Mr. Dick referred to the kind feeling existing between the firm and its assistants, and alluded to the gratifying increase of the staff, which has trebled within the past ten years. A varied programme of music, recitations, and dancing was gone through, a very enjoyable item being a pianoforte duet by Dr. and Mrs. Clark, and the company broke up at three o'clock.

GLASGOW.

GLASGOW CHEMISTS AND DRUGGISTS' ASSISTANTS' ASSOCIATION.—At a meeting held on Wednesday, January 8, a paper on

"The Drug Trade as it is" was read by Mr. William Fisher, who first referred to the popular delusion regarding druggists' fabulous profits and the multitude of apocryphal stories thereupon. The fact was that the public had not been educated to recognise that the elements of knowledge and skill are important factors in the pharmacist's work. In the good old times assistants were worse off than now, because the general state of the trade was inferior, and there were few superior spirits such as the founders of the Pharmaceutical Society, whose primary aim was the combination of pharmacists. That is still a largely unrealised ideal, but even when the worst was said, the Society must be credited with having raised the educational status, and even made a business success to the pharmacist. Compulsory examination was perhaps defective, but it was the only practical test for efficiency. Mr. Fisher then spoke of the fatal effects of cutting and the anomaly of doctors' shops. If doctors wanted to do the same work as druggists in addition to their own, he thought it would only be reasonable to place them on the same footing as regards qualifications. Speaking of the future of the pharmacist, he said that there seemed to be only two ways open—the workhouse or fortune; and in the latter direction the best progressive factor was higher education—that was the talisman to wealth. Messrs. Gilmour, McKellar, Robertson, Robinson, Harley, Watson, and Robb discussed the paper, and thereafter Mr. A. K. Chalmers moved, "That the Committee be instructed to arrange for a conversazione early in February," which motion was adopted.

General and Provincial News.

DRUGS FOR THE PARIS HOSPITALS.—The tenders for the annual supply of drugs and chemicals to the Paris hospitals were allotted on January 1, and nearly all the well-known old purveyors again divided the spoils, such as they are. Contela fils & Lesault are to furnish the dried herbs and spices; Albert Salle, liquorice root and grey South American cinchona; Ad. Garnier fils, Loxa bark; Doutare, gum arabic and mustard seed; Vve. Bréton fils, cod-liver and castor oils, a large quantity of staple drugs and perfumery; Lesault, musk. The chemicals are taken by Poulenc frères, Pressac Dubose frères, and Subert & Bucket.

FROM BOMBAY we learn that Messrs. Phillips & Co. (Limited) have a spacious new shop and "godown" at Byculla Bridge. The position chosen is one of the best sites in the Byculla quarter. The chief building will consist of a basement or cellar of 100 feet in length by 85 feet at its greatest width. The general sale-room and dispensary on the ground floor will be somewhat larger than the basement below, and it is believed will be one of the largest shops in Bombay. The flooring will be of white marble. Over the shop will be store room, and offices, and all the floors and roofs will be fire-proof and water-tight. The godown, 60 feet long and 30 feet wide, will be used as a laboratory.—The stock of Cooper, Madon & Co. (Limited), of Bombay and Poona, is being sold off just now, at reduced prices, the company being in liquidation.

PATENT MEDICINES IN THE STATES.—A case of some importance has recently been decided in the court of Georgia, U.S.A., in regard to injury sustained from taking patent medicines. A person sued the Blood Balm Company for damages in consequence of his having taken the company's medicine, which contained sufficient poison to do him injury, as it had done. The court decided in favour of the plaintiff and attached the damage to the manufacturers, specially relieving retailers from responsibility. In the course of the decision the court stated that as patent medicines are secret and proprietors expect to derive a profit from such secrecy, they are therefore liable for all injuries which may be sustained by persons who take their medicines in such quantities as are prescribed by them. It appears from analysis that in this case the medicine contained 25 grains of potassium iodide to 2 tablespoonfuls of the medicine, which was the dose directed to be taken. The plaintiff took that dose, and he was thereby greatly injured and damaged.

POISONING HORSES.—At the Retford Police Court, Charles Cooper, farm servant to Mr. T. Horberry, of Walkeringham, was charged with having, on December 30, administered certain poisonous drugs to his master's horses. There was a further charge for stealing corn. Mr. Horberry and his foreman, Thomas Wright, spoke as to the condition of the horses, one of which had become comparatively worthless. Police-constable Fryer said he found in Cooper's bin in the stables a bottle which had contained antimony, some saffron, white hellebore, mercury, and arsenic. They were buried in the corn, and the corn itself had been stolen. Mr. J. Chapman, veterinary surgeon, of Gainsborough, identified the drugs. Thomas Winder, farm servant to Mr. Horberry, stated that he and Cooper had the care of four horses each in the same stable. When he had been about a week in Mr. Horberry's employ, Cooper intimated that he would get something for the horses, and he brought some mercury from Gainsborough. He told the witness to put some on a sixpenny piece and give it to the horses, which he did. Cooper did the same. Witness saw him do it twice a week; then they gave the horses powders "to work it off." Cooper kept the stuff in his own bin. The magistrate sentenced the prisoner to one month's hard labour for stealing the corn; and for the second offence, of administering poisons, he would be sent to prison for another month, also with hard labour.

POISONING MEAT.—At the Sessions House, Boston, on January 1, Edward Goodacre, of Fishtoft, was charged with having placed poisoned meat on his land, on December 18 last. Fanny Alexander, domestic servant, proved having seen the defendant on the date mentioned place a piece of meat at the gate of one of his fields, close to the roadway. Shortly after, when the defendant left, she removed the meat, and a few hours later handed it to Police-constable Runacus, as the defendant was suspected of having poisoned several dogs. Mr. C. H. Southwell, analytical and pharmaceutical chemist, said he had examined a piece of meat which he received from Superintendent Crawford on December 20. There were three nicks cut in the meat, and in the nicks was a blue-coloured powder, which he analysed and found to contain starch, strychnia, and some colouring matter. It was about the same general composition as vermin-killers. There was sufficient to poison a human being. Mr. S. Hurst, manager for Lewin & Co., chemists, Boston, produced his poisons book, which showed that he had sold Goodacre a sixpenny packet of vermin-killer on December 11. The poison he sold was of the composition stated by the previous witness. The defendant said he knew nothing at all about the matter. Superintendent Crawford stated that many complaints had been made. Gentlemen passing through Fishtoft complained that their dogs had run inside the fields near the defendant's house, and on returning had curled themselves up and died. The magistrate considered the case clearly proved, and fined the defendant 7*l.* 16*s.* 6*d.*, including costs.

MARRIAGE.

[Notices of Marriages and Deaths are inserted free if sent with proper authentication.]

MERSON—GRAY.—At Coulterlanny, Frazerburgh, on Jan. 2, George Fowlie Merson, chemist, Newcastle-on-Tyne, to Minnie, daughter of Mr. James Gray, Aberdeen.

DEATHS.

PARODI.—Dr. Domingo Parodi, of the wholesale drug firm of Demarchi, Parodi & Co., Paris and Buenos Ayres, died at his Paris residence, 58 Rue de Chateaudun, on New Year's Eve. The deceased gentleman was well known as a botanist and a practical chemist. He passed most of his time in South America, where the works of the firm are situated.

PERRENOUD.—M. Paul Perrenoud, professor of pharmacy in Berne (Switzerland), and director of the Berne municipal pharmacy, died on December 23 last. The cause of death was carbonic oxide poisoning, caused by the accidental closing of the flue of the stove in the bedroom of the deceased gentleman. M. Perrenoud was 43 years of age, and formed one of the commission which is now revising the *Pharmacopœia Helvetica*.

Pharmaceutical Society of Great Britain.

COUNCIL MEETING.

EXACTLY ten members of the council were at the table when the president called the meeting to order at 11.25 on Wednesday morning, viz., Messrs. Atkins, Bottle, Carteighe, Cross, Hampson, Hills, Leigh, Martin, Newsholme and Watt. While the minutes were being read Mr. Greenish and Mr. Richardson came in, and shortly afterwards Mr. C. B. Allen took his place, Mr. Alfred Southall following him. The Council had now disposed of the minutes, but as arising from them the President said he had

TWO LETTERS

—one from Sir Charles Lennox Peel, the clerk to the Privy Council, intimating that the Council had approved of the persons who were appointed examiners in December. The other letter was from Dr. Quain, chairman of the Pharmacopœia Committee of the General Medical Council, acknowledging the letter intimating that this council would assist the Pharmacopœia Committee in compiling an "addendum" to the Pharmacopœia. Dr. Quain thought that this would give his committee "much satisfaction."

THE NEXT BUSINESS

was the election of apprentices, associates, and members; the pharmaceutical chemists who passed their examination last month were granted diplomas, and Mr. John Bromfield, of Hull, Mr. Joseph Sewell, 2 Pond Street, Fulham Road, and George Wrigglesworth, of King's Lynn, were restored to the Register on payment of a guinea fine.

FINANCE.

Starting the month with a balance of 1,128*l.*, the treasurer has since received 1,942*l.* for the sale of consols and 751*l.* from other sources; meanwhile 2,328*l.* has been paid, so that this month commences with a balance of 1,494*l.* The committee made recommendations for the payment of 1,518*l.*, which includes quarterly salaries and annuities, but otherwise nothing of an unusual nature. During the month a legacy of 19*l.* 19*s.* was received for the Benevolent Fund.

The PRESIDENT, in moving the adoption of the report, said in regard to the legacy that it was from the late Mr. Richard Forrest, of Barron, Squire & Co., who was one of the earliest examined members of the Society, and was well known on the road. Although Mr. Forrest could not have been classed amongst the rich men of the trade, for he had died comparatively young, he had endeavoured to show his respect for the Society by this legacy. He also referred to Mr. Forrest's ability, and to the fact that his brother is secretary to the Institute of Civil Engineers. With this exception there was little in the finance report which was not of a routine nature.

BENEVOLENT FUND.

Eight cases were considered, and one only was not entertained. For the others there were two grants of 15*l.* each, one of 12*l.*, three of 10*l.*, and one of 5*l.*

The VICE-PRESIDENT, in moving the adoption of the report, said that it was remarkable for the large number of applicants for relief. He appealed to the trade for votes and support on behalf of two candidates for the London Orphan Asylum, Watford, viz.:—

Frederick William Lees, 9 years. Father, a chemist and druggist, died in 1882, widow and five children. Proxies to be sent to Mrs. Lees, West Street, Great Marlow, Bucks.

Sarah Minnie Pennington, 7 years. Father, chemist at Worksop, Notts., died 1883, widow and eight children. Proxies to Mrs. Pennington, Bridge Place R. O., Worksop, Notts.

These cases, said the VICE-PRESIDENT, were well-supported, and deserved the sympathy of the trade. This was a sentiment which the President warmly supported, and asked those who had votes to give to consider the cases at once.

Mr. CROSS took the opportunity of asking the Benevolent Fund to consider the advisability of the society subscribing to some of these institutions, so that they might—should the

occasion arise—nominate any child whom they wished to provide for in this way.

On this a conversation followed, in which Messrs. Atkins, Bottle, Carteighe, and Richardson took part, and they all seemed to be of the same mind as Mr. Cross, so the Vice-president will bring the matter before the committee at its next meeting.

At this point Mr. Martindale came in, and, five minutes later, Mr. Robbins. The total attendance, therefore, came to 16.

THE COUNCIL AND APPRENTICES.

The most important matter in the Library, &c., Committee's report was the decision regarding Mr. Leigh's motion to have annual examinations for apprentices, and to give them certificates and prizes. The committee thought the scheme to be an impracticable one, and the President told the meeting why. There were a good many reasons, said the President, why it arrived at the conclusion it did, and it might seem to some to be a strange thing that the Council, which was always speaking in support of education, should take this opportunity of showing an apparent want of sympathy with apprentices. He scarcely needed to explain that they all wanted to help apprentices, and to encourage them to educate themselves as far as that was possible, and, while the committee had not lost sight of that, they had to consider a much more serious thing, viz., how far was it possible for the Society, as a body empowered by statute to grant certificates of competency, to undertake such work as was contemplated by Mr. Leigh's motion, and to give thereupon certificates of totally different value to the statutory ones. They did not think that it was possible to give the apprentices these certificates without producing evil. It would be all right if they could associate the annual examinations in any way with the qualifying examination, so as to make them part and parcel of the qualifying examination, but that could not be done until they got the curriculum, or some power for dividing the examination. Moreover it was the opinion of the committee that the Society should not undertake examinations except through the Boards of Examiners, because if they were to do it otherwise they would place the Boards in a very awkward position, seeing that they might give an apprentice a certificate which showed that he had passed certain subjects, and he might afterwards come up before the Board and fail in such subjects. After referring to the certificates given by the School of Pharmacy, the President speculated upon the probable value which would be attached to the apprentice certificates, especially in obtaining situations, and thought that, everything considered, the Society could not award certificates of competence in any other way than by the Boards of Examiners. These were the points which weighed most with the committee, but they also thought that it was not quite right to encourage examination more than was necessary, nor to centralise education, but rather to foster it in the provinces by supporting the efforts of local associations. Nor did the committee agree with Mr. Leigh's idea that his scheme would encourage a feeling of favour to the Society on the part of apprentices. It might for those who passed, but his experience was that those who failed, and all connected with them, were apt to become hostile to the Society. Another reason which the President advanced in his lengthy speech was that the scheme would only encourage those who already study, while those who wanted stimulating would not be touched by it.

Mr. LEIGH said he was sorry that the scheme could not be gone on with. He acknowledged the courtesy which had been extended to him by the committee, and stated that he had received a large number of letters supporting his idea, so that he hoped that at some future time something would be done, though different from his scheme, in the way of encouraging apprentices.

Amongst other matters mentioned in the report was the decision of the committee in regard to the application of the Dundee Chemists' Assistants' and Apprentices' Association for a grant. The council will give them the *Pharmaceutical Journal*, but no money or other assistance, because one of the conditions of grant-giving to associations is that there should be local effort in the way of a curriculum of botany, chemistry, and materia medica, and in Dundee there is nothing of that kind. The Midland Chemists' Association

had also made an application, which was deferred for reconsideration.

LOCAL SECRETARIES.

The committee had considered whether it was possible or not to do anything in regard to the appointment of local secretaries and altering their duties. The only thing that could be done was, it was thought, to send out the voting papers for them in October instead of May, and to make the appointments in December. The President made some remarks about the matter, which were mainly the expression of a hope that the alteration would do good.

ANOTHER CHEMIST AND DRUGGIST.

Mr. Thomas Townley, of Tarporley, Cheshire, was in business as a chemist and druggist before 1868; he has asked to be put on the Register, and has paid his 5*l.* 5*s.* The REGISTRAR said he had made inquiries and had found that Mr. Townley's application was right.

OTHER BUSINESS.

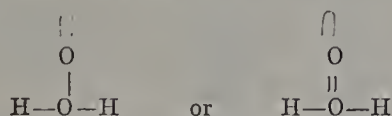
The PRESIDENT stated that the law and parliamentary committee were not prepared to report [on the Pharmacy Bill, we presume] until February. The SECRETARY reported the results of last month's examinations, and a resolution passed by the Chemists' Assistants' Association *re* the sale of poisons by unqualified assistants was read. This was all the business except what the Council afterwards deliberated upon for an hour in committee, and our representative did not hear what that was.

SOCIETY OF CHEMICAL INDUSTRY.

A MEETING of the London Section of this Society was held on Monday night at Burlington House, Mr. David Howard in the chair. There was a good attendance, several ladies being present. The first paper read was on

HYDROGEN PEROXIDE: ITS PRESERVATION AND COMMERCIAL USES.

This was by Mr. C. T. Kingzett, of the "Sanitas" Company, who has been working at the subject for many years, and on that section of it, with which he now dealt, for fully two years. After telling the meeting in general terms how hydrogen peroxide is made, what it is used for, and why, Mr. Kingzett briefly discussed the constitution of the molecule, giving it as his opinion that it is either



and, as he afterwards stated, he lent to the first given, because he thought the oxygen atom in ozone is undoubtedly triatomic.

As to the properties of hydrogen peroxide, it is well known that the solution does not keep, but it is erroneous to say that the dilute solutions decompose completely on boiling, for such solutions, the author found, could even be concentrated by evaporation, although with loss of oxygen. Speaking of the commercial designations for the solutions, he said that in England the "10 volume" article was understood to give of itself by perfect decomposition 10 volumes of oxygen, whereas in the United States "10 vol." was understood to be 5 volumes of oxygen from the solution itself and 5 from the permanganate used for titrating.

Under ordinary circumstances the rate with which the solution decomposes is not at all constant, both light and temperature, as well as the purity or impurity of the solution, being material factors. It has long been known that a little ether has a powerful restraining influence upon decomposition, due either to that body producing hydrogen peroxide itself, or by its evaporating and preventing the same phenomenon in regard to the peroxide. But his experience was that ether was not always to be depended upon, and, as he required for the production of the "Bac-

tericides" introduced by his company to get an agent which would preserve the peroxide, he set agoing several series of specimens, in order to see what would best preserve the "bactericides," which are solutions of metallic and other substances in the peroxide solution. In the first set of solutions, containing 5 per cent. of the respective substances, magnesium, ferrous, mercuric, copper and manganese sulphates; ferric, copper, zinc and mercuric nitrates, and aluminium, ferric, copper and lead chlorides had a most decidedly deteriorating influence, for while a plain solution lost 20 per cent. in 176 days, the solutions containing these substances lost from 80 to 90 per cent. in the same time. Several others had a less powerful influence in this direction, but the only metallic substances which could he said to be preservatives were sodium sulphate, the alkaline nitrates (especially sodium, potassium, and strontium nitrates), and the alkaline chlorides, as well as mercuric chloride, which saved loss to the extent of 3 to 6 per cent. Mr. Kingzett submitted a tabular statement of these results, and also of all others which he spoke about. The next series of experiments was made in rather warm weather over a period of sixty-three days. A standard solution which lost 22 per cent. in that time lost only 8 per cent. on the addition of 2½ per cent. of real alcohol, and 13 per cent. when 2½ per cent. of glycerine was added. Borax, hydrochloric acid, chloral, oxalic acid, and horic acid accelerated decomposition, while two standard pure solutions which lost the whole of their strength in 165 to 182 days had the loss limited to 11 per cent. by a mixture of chloroform and alcohol (5 c.c. and 50 c.c.), to 41 per cent. by absolute phenol, to 19.8 per cent. by ether, 21.9 per cent. by acetic acid, and 14.5 per cent. by potassium bisulphate, all these agents being in the proportion of 5 per cent. Still another series of experiments was gone into, and the following shows the results in the most important cases:—

Name of Substance added (1 per cent. in each case)	Loss on 405 h day Per cent.
Standard A. No addition	83.0
Standard B. H ₂ SO ₄ on 46th day	63.4
Ethyllic alcohol	21.2
" ether, sp. gr. 720	15.1
Methylated chloroform, sp. gr. 1.493	56.1
Acetic acid (congeals at 50°)	50.4
Glycerine, sp. gr. 1.260	71.7
Phenol, pur. cryst. B.P.	44.8
Chloral, pur. cryst. B.P.	71.7
Thymol	46.3

A fourth and last series served to confirm the conclusions which so far had been arrived at, viz., that solution of hydrogen peroxide keeps best when it is neutral, and that acids and alkalis accelerate decomposition.

In concluding, Mr. Kingzett explained that for want of time he had been unable to write about the uses of hydrogen peroxide, but he distributed copies of the Sanitas Company's pamphlets on the matter, and also mentioned that all the practical outcome of his experiments, except so far as it was previously known, he had taken the precaution to protect by patent.

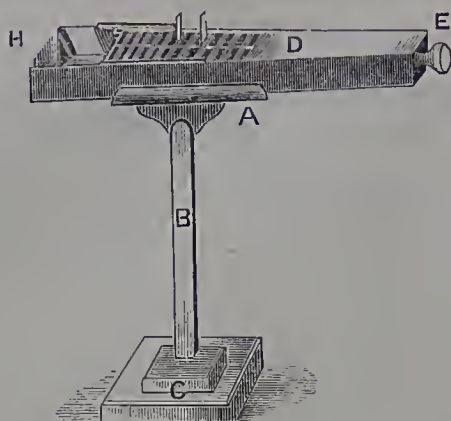
After some remarks from the Chairman and Professor Clowes, Dr. Squire said he had found that the peroxide kept well enough if it was made pure to start with; a very little ether was the best preservative. He did not agree with Mr. Kingzett that "10 vols." meant that the solution itself gave 10 vols. of oxygen; commercial solutions gave only 5. Ether was also an excellent preservative for perchromic acid. After a few more remarks Mr. Kingzett replied, especially directing his attention to a suggestion that alcohol and ether acted on account of their being oxidised to acetic acid. The fact that that acid accelerated decomposition rather than otherwise showed the suggestion not to be correct.

The next paper read was on

AN ANALYTICAL TINTOMETER,

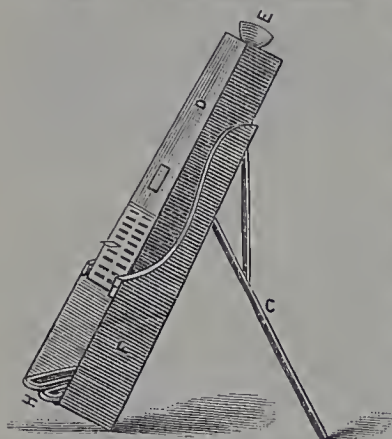
by Mr. J. W. Lovibond, of Salisbury, who, assisted by Miss Lovibond, gave an interesting demonstration of the use of the instrument. By means of the tintometer the depth of colour in liquids and solids can be accurately measured in degrees and placed in their position in a permanent colour-

scale. It consists of a series of standard scales made of slips of coloured glasses numbered according to their depth of colour, and an instrument for holding the glass slips and



the object to be measured. There are three scales, a blue, a yellow, and a red; and it is possible by these to get any combination of colours.

The liquid to be measured is poured into a gauged glass, which gives a medium reading. Standard glass slips are then placed in the grooves on the other side until equality is obtained, when the numbers on the glass indicate the colour with its combinations and depth of tint.



There are two forms of the instrument, one for transparent objects (A) and the other for opaque (B). Each instrument consists of two tubes, side by side, both open at one end, one tube giving a view of the object to be measured, and the other a view of the standard glasses required to measure it. At the other end of the instrument is a single eye-piece, commanding a clear vision at the same time of the object on one side and measuring glass on the other, under exactly similar conditions and uninfluenced by the nature and colour of the surroundings.

Mr. Lovibond confined himself in his paper to discussing questions of optics which bore upon the instrument, and showed that under ordinary conditions the apparatus is excellently suited for the objects for which it was designed, and which include measuring of tints of oils, colouring matters, &c.

A discussion followed the reading of the paper, during which Mr. Boverton Redwood spoke highly of the value of the tintometer for testing the colour of lubricating oils.

[It will be seen from the nature of the instrument that it is adapted for such colorimetric work as Nesslerising, determining the tint of tap water, &c.—ED. C. & D.]

GLASGOW SECTION.

A MEETING of this section was held on Tuesday in the Society's rooms, Bath Street. Mr. R. R. Tatlock presided. Mr. E. Rodger read a short paper describing a visit to the salt mines of Khewra, Punjab. Mr. T. L. Patterson contributed an exhaustive paper "On the Quantitative Estimation of Colouring Matters by Means of their Absorption Spectra." The paper was illustrated by diagrams and tables giving the results of a great variety of experiments, and Mr. Patterson exhibited an instrument adapted by himself for making observations, and which, the chairman stated, would be the means of opening up a new branch of analysis. A third paper was "On the Fixation of Nitrogen," by Mr. C. A. Fawsitt.

MANCHESTER SECTION.

THE members of the Manchester section of the Society met last Tuesday night at the rooms of the Chemical Club, Victoria Hotel, Manchester, Mr. Jas. Hart in the chair, in the absence of Mr. Ivan Levinstein, the President.

THE RATE OF DISTILLATION OF ACETIC ACID.

Mr. J. A. Wilson submitted a paper containing results of experiments, made some short time ago, in an attempt to apply the principle of researches made by M. Duclaux on the rate of distillation of various fatty acids to the valuation of commercial acetates. Duclaux found, on distilling solutions containing various fatty acids, that each acid possesses a rate of vaporisation peculiar to itself. Moreover, the least volatile acids distilled in the portions of distillate coming first, whilst acetic and formic acid behaved in the opposite manner. In the case of acetic acid Duclaux found that when 110 c.c. of a liquid containing acetic acid were distilled in a retort of 250 to 300 c.c., by the time 100 c.c. of the liquid had passed over, or $\frac{10}{11}$ ths, it contained 79.8 per cent. of the total quantity present. Formic acid did not distil so easily, whilst propionic acid was more volatile, and butyric acid more than the latter. When two or more acids were present in a liquid, each maintained its own special characteristic rate of distillation. Tables showing these characteristics are given in most works on organic analysis; and Mr. Wilson said that he had not been able to find any researches on the same subject other than those of Duclaux. The experiments he had made were mostly from a technical point of view, and mainly with the intention of applying the principle of the commercial assay to all acetates, acetic acid, and vinegars. However, as the process was mainly intended for detection of the volatile acids of wine, we might reasonably consider, the author said, that they would be dilute. In his experiments a 250 c.c. retort was employed, attached to a condenser 22 inches long, and the neck of the retort was not surrounded by a dome or wrapped with flannel, or any of the devices to confine the heat and thus prevent condensation. Pure semi-normal alkali was used for the titration, with phenolphthalin as indicator. In table No. 1, 110 c.c. of the acid, of strength mentioned in column No. 1, were pipetted into a 250 c.c. retort, and distilled at the usual rate till 100 c.c. had passed into a graduated receiver, the amount of acid in the distillate being then found by boiling with slight excess of alkali, cooling, and then adding semi-normal hydrochloric acid till the pink colour was discharged. The results signified under "total" in the following table were obtained by direct titration:—

$C_2H_3O_2$ per cent. Total	$C_2H_3O_2$ in $\frac{10}{11}$ ths distillate	Per cent. of $C_2H_3O_2$ in $\frac{10}{11}$ ths distillate of that in retort
1.015	0.928	83.15
2.287	1.896	82.90
4.18	3.84	83.52
10.45	9.49	82.56
23.19	23.73	82.37

The above experiments were carried out most carefully, and in duplicate, and he was somewhat disappointed in them. He ought here to mention that there being danger in distilling such as the No. 5 strength of acid, an aliquot portion was taken, so as to bring it approximately to No. 4, and made up to 110 c.c. and distilled to $\frac{10}{11}$ ths, as before. Table No. 2 showed the results obtained from three commercial samples of vinegar, with the difference that the figures under "total" were obtained by successive distillation, with addition of water:—

Acetic acid per cent. Total	Acetic acid in $\frac{10}{11}$ ths distillate	Per cent. of acetic acid in $\frac{10}{11}$ ths distillate to that in retort
4.465	3.765	82.96
4.530	3.78	81.44
4.75	3.97	83.38

The above samples of vinegar gave precipitates with silver

nitrate and barium chloride. On account of the former a little silver sulphate was added. Commercial vinegars, as a rule, contained from 2.5 to 3.7 per cent. of solid matter, but that did not appear to have affected the distillation much. Table 3 showed the influence of neutral salts, sodic chloride, and sulphate on the speed of distillation:—

Acetic acid P. cent. total	Amount of neutral salt per 100 c.c.	Acetic acid in $\frac{1}{10}$ ths distillate	Per cent. in $\frac{1}{10}$ ths distillate to that in retort
10.26	5 grms. pure NaCl	10.47	93.77
"	10 "	10.92	96.76
"	5 " $\text{Na}_2\text{SO}_4 \cdot 10\text{Ag}$	9.675	86.39

The influence of phosphoric acid was the subject of two more experiments, the solution being prepared by dissolving 220 grammes of glacial phosphoric acid in 200 c.c. of water. The purity of the acid was proved by treating 20 c.c. in the retort, and distilling to dryness.

160 c.c. acid solution. 10 c.c. phosphoric acid. Acetic acid total	Acetic acid in $\frac{1}{10}$ ths distillate	Per cent. of acetic acid in $\frac{1}{10}$ ths distillate to that in retort
10.05	9.90	98.51
4.25	4.16	97.88

The experiments he next made with the commercial acetates were conducted in the usual manner, and in the same retort, viz., that of 250 c.c. capacity, which was considerably larger than that usually employed. The same phosphoric acid was employed, and the quantity of substance taken was averaged so as to give as near as possible the same amount of volatile acid. The standard was that of potassium acetate, which was made by dissolving 2.5 grammes in 250 c.c. of water; 100 c.c. was then put in the retort, and 10 c.c. phosphoric acid added, distilled to $\frac{1}{10}$ ths, and the quantity of acid in the distillate found by titration. Water was added to the retort after cooling, and distilled to about 5 c.c. till no acid came over.

Commercial salt	Acetic acid per cent. Total	Acetic acid in $\frac{1}{10}$ ths distillate	Per cent. of total in $\frac{1}{10}$ ths distillate
Acetate potassium ..	60.22	57.00	94.65
" soda ..	44.23	43.23	97.74
" chrome (liquid) ..	10.605	10.20	96.18
" " (solid) ..	55.61	48.50	95.83
" " (2) ..	48.66	46.30	95.15
" copper (pure) ..	60.36	59.70	98.90
" lime liquid 24 T ..	13.24	12.68	95.77
" " ..	12.88	12.38	96.11
Sulpho-acetate alumina— In red liquor 16 T ..	7.32	6.97	95.22
" " ..	6.79	6.48	95.43
Sulph. acetate alumina— Scarlet liquor 15 T ..	5.90	5.60	94.91

The mean result of the above was 95.99 per cent. He had constructed table No. 6 on this mean result, and it showed the results in conjunction with those actually obtained:—

Name of salt	Acetic acid from 95.99 per cent. factor	Acetic acid per cent. actual, from column 2, table 5	Error
Acetate potassia ..	59.38	60.22	+0.84
" soda ..	45.03	44.23	+0.80
" chrome ..	10.62	10.605	+0.015
" " (solid) ..	50.51	50.61	-0.09
" " ..	48.23	48.66	-0.43
" copper ..	62.19	60.36	+1.83
" lime 24 T ..	13.21	13.24	-0.03
" " ..	12.89	12.88	+0.01
Sulph. acct. alumina: In red liquor ..	7.26	7.32	—
" " 2 ..	6.75	6.79	0.04
Sulph. acct. alum.: In red liquor ..	5.83	5.90	0.07

The results above stated were seriously in error in two or

three cases, and whether the mean factor—95.99—would be used each one would decide for himself. In the majority of cases the results came very near those calculated.

A discussion followed the reading of the paper.

CONTRIBUTIONS FROM OWENS COLLEGE.

A number of communications from the Owens College laboratory were submitted, including a statement by Dr. Julius Cohen with reference to a new method of estimating the amount of sulphur in iron and steel—a very interesting and delicate process, which can be performed in half-an-hour. A paper was read by Mr. James Grant and Dr. Cohen on "Some experiments on the method of determining sodium carbonate in the presence of sulphites in caustic alkalies and salts," in which were described experiments which have led to the following conclusions:—The quantity of ordinary 10-volume H_2O_2 depends on the percentage of sulphite present in the alkaline sulphite solution. The caustic salts of commerce contain about 50 per cent. of the sulphite. Hence it is sufficient to take equal volumes of commercial hydrogen peroxide and salt solution, although this gives twice the theoretical quantity of oxygen required to oxidise the sulphite to sulphate. For salts containing above 50 per cent. of sulphite, it is better to take double the volume of hydrogen peroxide. Allowing the mixture of alkaline salts solution and hydrogen peroxide to stand half-an-hour before boiling up is unnecessary, seeing that the increase in quantity of acid required for neutralisation is very slight—in fact, almost unappreciable.

Personalities.

MR. H. NAPIER HAKE has been appointed chief inspector of explosives to the Victorian Government. Mr. Hake has for some years been associated with Dr. Dupré.

MR. ROBERT MOUNTAIN, who has for the past fourteen years travelled for Messrs. Raimes & Co., has represented Messrs. Lorimer & Co., of London, in the North of England since January 1, 1890.

MR. JOHN SLIGHT, chemist, High Street, Lincoln, has retired from business, and has disposed of the goodwill, prescription books, and formulæ to Messrs. J. Kemp & Co., of the same city.

MR. H. COLLARD, of Sydney, who is representing Messrs. E. A. Hearn & Co. and F. Darton & Co. in Australia, has arrived in London. He hopes to be in England three months; all communications addressed care of W. Ashby & Co., 26 Leadenhall Street, will reach him.

DEATH OF A CHEMIST.—At the inquest held at Kirton Lindsey, in reference to the death of Mr. Robert Bingham, who was found lying dead in a stable on the previous Monday, it appeared that the general belief at first entertained, that he had committed suicide, was regarded as improbable. It was considered likely that deceased has met his death through apoplexy.

WILL OF THE LATE MR. WOOLLEY.—Probate of the will, dated August 18, 1885, of the late Mr. Harold Woolley, of Harefield, Holland Road, Crumpsall, and of Manchester, pharmaceutical chemist, who died on October 16 last, leaving personally valued at 30,225*l.* 1*s.* 7*d.*, has been granted to the executors, Mrs. Woolley, Mr. Edward Christensen, of Christiania, and Mr. James Lowndes, of Manchester, to each of whom, as executor, the testator bequeaths 50*l.*; and to Mrs. Woolley 100*l.*, and his plate, pictures, furniture, and household effects. He devises all his real estate, and bequeaths the residue of his personal estate in trust to pay the income thereof to Mrs. Woolley for her life, and on her death to distribute the estate in equal shares amongst all his children.

NOTHING NEW.—"Every schoolboy" knows that scent was familiar to the Romans, and what scent it was. Will he not at once quote the line, "Tityre tu patchouli recubans," &c.?—*Punch*.

THE B.P.C. FORMULARY ADDITIONS.

FOLLOWING up the suggestion made during the Newcastle Conference by some of the members, the Formulary Committee have issued a 4-page sheet containing several additional formulæ. There are nine in all of the new formulæ, and most of them are of sufficient importance to warrant their receiving a place in the Formulary. If we were disposed to be hypercritical we might venture to inquire by what or whose authority have these formulæ been issued. So far as we are aware the Conference gave the Committee no authority to do anything of the kind; and, being only a committee which has of necessity a dependent existence, we are not sure that their present action is not *ultra vires*. Hitherto they have reported the result of their labours directly to the Conference; and though, as a matter of course, their report was issued as presented, the Conference was responsible for it. In this case this formality has not been gone through, and we question if even the Executive Committee has the power to authorise the issue. This, no doubt, is only a technical objection, and it does not invalidate the sound character of the work represented by the new formulæ; but it would be well in future to have the report up to time, and presented in due form before the Conference. For ourselves, we think that an issue of new formulæ should not be looked for every year. The committee might be appointed regularly, but they ought to have full discretionary power as to when they should report; for it does not follow that there will always be the same wealth of material to operate upon, and consequently it is unreasonable to expect a supply of new formulæ at stated intervals.

Owing to the retirement of Dr. Thresh from the more purely pharmaceutical circles, there is a vacancy on the committee, and we understand that the members have appointed two pharmacists to fill his place, viz., Mr. Wright, of Buxton, and Mr. Francis Ransom, of Hitchin.

With these preliminary observations we, according to custom, offer a few remarks on the new formulæ.

ACIDUM HYDROCYANICUM (SCHEELE).

Ferrocyanide of potassium	..	..	2½ oz.
Sulphuric acid	..	..	1 fl. oz.
Distilled water	..	..	24 fl. oz., or a sufficient quantity.

Dissolve the ferrocyanide of potassium in 10 oz. of the water; then add the sulphuric acid, previously diluted with 4 oz. of the water and cooled. Put the solution into a flask to which are attached a condenser and a receiver arranged for distillation, and, having previously put 1 oz. of distilled water into the receiver, and provided efficient means for keeping the condenser and receiver cold, cautiously apply heat to the flask until by slow distillation the liquid in the receiver is increased to 10 fluid oz. Add to the product as much water as may be sufficient to bring the acid to the required strength.

Characters and Tests.—A colourless liquid. Specific gravity 0.994. A fluid drachm of it leaves on evaporation no fixed residue. It gives no precipitate with chloride of barium, but with nitrate of silver it yields a white precipitate entirely soluble in boiling concentrated nitric acid. Its strength, as determined by the process of the British Pharmacopœia by means of volumetric solution of nitrate of silver, corresponds to 4 per cent. of hydrocyanic acid.

The object apparently of the committee in including this acid is to ensure that in future it should be of uniform and definite strength, and the only point on which difference of opinion could exist would be as to whether 4 per cent., which is the standard they have adopted, is not too weak. Obviously it is most desirable that this powerful poison should be uniform, but as a matter of fact the Scheele's acid of commerce is far from being so. This was proved most conclusively by Mr. Wright, whose paper, read at the last Conference, showed that commercial samples of the acid varied from 3.6 to 5.7 per cent. The original process of Scheele does not yield an acid of uniform strength, and is now probably never followed. We used to be under the impression that Scheele's acid as generally supplied was a 5-per-cent. acid, and Squire states that it is supposed to be about three times stronger than the dilute acid of the British Pharmacopœia; but we find that as far back as 1842

Pereira states that one large maker always sent out Scheele's acid as 4 per cent. In view of this, we think the committee have exercised a wise discretion in adopting the lower figure, which is strong enough for all practical purposes, and, besides, it can readily be diluted when required without any mental effort or calculation. The formula is based on the B.P. process, and no doubt it will give satisfactory results. At first sight it appears curious that a 2-per-cent. acid should have a gravity of .997, while a 4-per-cent. acid is .9967, but this will have been carefully verified by the committee.

ACIDUM HYPOPHOSPHOROSUM.

Hypophosphite of barium, containing not less than 95 per cent. Ba ₂ (PH ₂ O ₂)H ₂ O	..	8 oz.
Diluted sulphuric acid		
Distilled water, of each a sufficient quantity.		

Dissolve the hypophosphite of barium in 36 fluid oz. of hot distilled water. Add slowly to the solution 17 fluid oz. of diluted sulphuric acid, after which continue the addition drop by drop until no further turbidity is produced. Set aside in a warm place, and pass the clear liquid through a filter. Wash one precipitate by decantation with successive portions of hot distilled water until the washings have no longer an acid reaction. Filter, unite the filtrates, and evaporate the liquid on a water-bath to the prescribed density. The product will weigh about 11½ oz.

Characters and Tests.—Colourless. Specific gravity 1.1367. Its strength, as determined by volumetric solution of soda, corresponds to 30 per cent. of hypophosphorous acid. Its aqueous solution is not precipitated by diluted sulphuric acid, nor by an excess of ammonia, nor by oxalate of ammonia after neutralisation, and gives not more than a faint opalescence with chloride of barium. If solution of ammonio-sulphate of magnesium be added after an excess of ammonia, no precipitate is produced. Chloride of calcium added to a neutralised solution yields no precipitate.

The prominence to which the various preparations of the hypophosphites have attained, and the favour with which they are regarded, has rendered necessary the introduction of hypophosphorous acid, and the committee wisely supply a formula for its preparation and tests for its purity. Regarding this acid there has been a lot of discussion, and hitherto finality has not been reached. There are, indeed, those who think that, as this is a chemical rather than a pharmaceutical subject, it will only be when a thorough chemist takes it up that the various knotty points connected with it will be definitely cleared up; this opinion being hazarded with all deference to the members of committee, who, able though they be, are pharmacists first and chemists second. As an illustration confirmatory of this opinion, we may refer to two samples of hypophosphorous acid that we have recently examined. Both samples were of exactly 30-per-cent. strength, as determined by volumetric analysis; but one of them, a "commercial" acid, had a specific gravity of 1.138; and the other, a "pure" acid, had a gravity of 1.134, under identical conditions as to temperature and pressure. There are several different methods by which hypophosphorous acid may be prepared, but it is curious to note that these are apt to give different results; that is to say, if the acid by one process corresponds in acidity with that by another, the chances are that there will be a difference in the gravity. Our experience has been that we have never yet found a quite pure hypophosphorous acid, even those purchased as pure from leading makers showing in course of time that they were not altogether satisfactory. The various processes that have been suggested from time to time are all more or less faulty, the chief difficulty being the solubility, to a greater or less extent, of the decomposition by-product in the acid. Of these a commonly used process is that which consists in the decomposition of calcic hypophosphite by oxalic acid, but the objection to this is that calcic oxalate is partially soluble in hypophosphorous acid. Calcic hypophosphite may also be decomposed by sulphuric acid, and this process is in use, we believe, by some makers, but a similar objection holds here, since calcic sulphate also remains in solution for a time, being ultimately deposited in a crystalline form. The United States National Formulary gives a formula which follows somewhat on the lines of Fothergill's original process for making hydrobromic acid. Hypophosphite of potassium is dissolved in water, and tartaric acid in diluted alcohol; the two solutions are mixed, acid tartrate of potassium is

precipitated, and the filtrate contains the hypophosphorous acid. The alcohol is then evaporated off and the liquid made up with water.

A modification of this process in so far as the use of the alcohol is concerned has been proposed in connection with the oxalic acid process first mentioned, viz. by precipitating the calcic oxalate by means of alcohol, and evaporating off the spirit. All these processes have, we understand, been fully considered by the committee, and several of them tested both on the small and the manufacturing scales; but the committee have fallen back on the very safe plan of decomposing barium hypophosphite with sulphuric acid. The formula requires a barium salt containing 95 per cent. of hypophosphite, and the proportion of dilute sulphuric acid is calculated on this basis. It unfortunately happens, however, that sometimes barium hypophosphite is less than 95 per cent.—we have met with such samples, although they were specially bought as 95 per cent.—and in cases such as these the quantity of dilute acid ordered would be slightly in excess. Seventeen fluid ounces would be better than $17\frac{1}{2}$ in the first instance, and then add the remainder of the acid gradually. The process is tedious, but it gives a very satisfactory acid, which corresponds in acidity and specific gravity, and it is freer from impurity than any we have met with made by any other process.

CHLOROFORMUM ACONITI.

Aconite root	20 oz.
Strong solution of ammonia .. .	$1\frac{1}{2}$ fl. oz.
Distilled water .. .	1 pint
Chloroform, a sufficient quantity.	

Bruise the root, and moisten thoroughly with the strong solution of ammonia and distilled water previously mixed. Macerate for four hours; dry carefully, and reduce to No. 40 powder. Pack tightly in a percolator provided with a tap and closely-fitting cover. Macerate for twenty-four hours with 20 fluid oz. of chloroform; then pour successive quantities of chloroform, percolating slowly until 30 fluid oz. are obtained.

CHLOROFORMUM BELLADONNÆ.

Prepared as chloroform of aconite (q.v.), substituting belladonna root for aconite.

In framing these formulæ the committee have followed the lines suggested by Mr. Groves in the discussion that took place after the reading of Mr. Wright's paper at the Newcastle Conference. Mr. Wright's experiments went to show that chloroform *per se* was not a good menstruum for the extraction of the alkaloids of aconite and belladonna, and he recommended the use of a mixture of chloroform and alcohol. Mr. Groves deprecated the use of alcohol on the ground that these preparations are frequently prescribed with oil for liniments, but he quite admitted that simple percolation with chloroform was not a success. This he accounted for on the hypothesis that the alkaloids exist in the roots, not in a free condition, but as salts, in combination with an acid or acids; and, working from this theory, he proposed to liberate the alkaloid by means of ammonia, and then dissolve it out with pure chloroform. A process such as this is in every way likely to produce good results, and the fact that Mr. Groves found by actual analysis that a much larger yield was obtained in this way is further proof in favour of his hypothesis.

The difficulty arising from the mobility of the chloroform and the rapidity with which it percolates is obviated in the Formulæ process by having a tap on the percolator, by which the flow of the menstruum is regulated. The strength of the preparations is the same as that of the B.P. liniments, viz. one of root in one and a half, and they will be found most useful in many cases where it is not possible at present to get a really presentable liniment; that is, in cases where oil is prescribed.

Chloroformum Camphoræ is simply a solution of 2 oz. of camphor in 1 fluid oz. of chloroform.

ELIXIR SENNÆ.

Alexandrian senna .. .	1 lb.
Rectified spirit .. .	
Distilled water, of each a sufficient quantity	
Refined sugar, in coarse powder .. .	12 oz.

Mix 4 fluid oz. of rectified spirit with 12 fluid oz. of water, and with it moisten evenly the senna. Pack tightly in a closed vessel, and macerate

for three days. Express forcibly, and pour the product on the sugar. Break up the marc, and add to it sufficient of the same menstruum to furnish in all 16 fluid oz. of product. Express again after twenty-four hours' maceration; add the liquor to the previously obtained product and the sugar, and heat in a closed vessel, by means of a water-bath, to 200° F., and maintain at that temperature for ten minutes. When cold, strain and add, after mixing—

Chloroform .. .	21 minims
Oil of coriander .. .	$2\frac{1}{2}$ "
Tincture of capsicum .. .	$\frac{1}{2}$ fl. drachm
Rectified spirit .. .	3 "

Agitate thoroughly, and, if necessary, add proof spirit to make the product measure 24 fluid oz.

Dose: 1 to 3 fluid drachms.

The Formulæ Committee has more than one authority on senna among its members, and we may be quite certain that they will pass nothing that will not bear strict scrutiny. This constitutes *prima-facie* evidence as to the value of this formula. Elixir of senna is intended evidently to take the place of the preparation much in vogue under the name of *Liquor sennæ dulc.*, or sweet essence of senna. No exception can be taken to the formula in so far as the pharmacy is concerned, since it embodies the most reliable method for extracting the cathartates, which constitute the active principles of the drug. The heating is for the purpose of sterilising the liquid, but we find it has the effect of throwing down a slight deposit, which requires to be separated by decantation. Our experience of the new elixir is that it is elegant, palatable, effectual as a cathartic, 2 fluid drachms being quite enough for an adult; it does not occasion griping to any extent, and it will be likely to keep well. The elixir contains the active principles, so far as they are extracted by the process, of 1 oz. of senna in $1\frac{1}{2}$ fl. oz., and is thus weaker than some liquors, which are said to be 1 in 1.

There may be some surprise that a formula has not been given for a preparation of senna pods, which are at present the "rage" in many quarters; but the Committee are well advised in waiting until the drug has received the attention and approval of a wider medical circle.

EXTRACTUM HÆMATOXYLI LIQUIDUM.

Unfermented logwood, in No. 16 powder .. .	20 oz.
Distilled water .. .	6 pints

Boil the logwood with 2 pints of water in a covered copper or enamelled pan for half an hour, and strain. Add 2 pints of water, boil for another half-hour, and again strain. Repeat the process for a third time, and, having mixed the strained liquors, evaporate over a water-bath (or preferably in *vacuo*) until the product measures 1 pint. Set aside for seven days, and then decant the clear liquor by means of a syphon from any sediment that may have been deposited.

Dose: $\frac{1}{2}$ to 2 fluid drachms.

This preparation has evidently been introduced to give effect to the suggestion put forward by Mr. Siebold at the Manchester meeting of the Conference two years ago. This has not as yet been much used, but we understand that it has been found by those medical men who have prescribed it to be of great value in certain throat affections and in cases where a mild astringent is indicated, and it has only to be known in order to be appreciated by a much wider circle. It is quite impossible to produce a fluid extract with a specific gravity of 1.06 (which Mr. Siebold gave), the highest we have succeeded in reaching for a 1 in 1 liquor having been 1.03, and even this standard will hardly be obtained by this process, which cannot possibly exhaust the logwood. It must be remembered, however, that Mr. Siebold worked with tons of material at a time, and the enormous pressure thus obtained enabled him to obtain a percolate such as cannot possibly be got by working on a small scale. The 1.03 liquor keeps well without the addition of any alcohol, and does not deposit after the first few days. It is important that distilled water be used throughout the process, otherwise the extract will not be satisfactory; in the event of ordinary water only being available, it is necessary to add a few drops of dilute hydrochloric acid to neutralise any alkali that may be present. The reference to evaporation *in vacuo* being preferable to evaporation in the open air, on account of the liability of the hæmatoxylin to be oxidised into hæmatein, is also a sufficient indication that the liquor will be best made in the factory.

SYRUPUS CALCII HYPOPHOSPHITIS.

Hypophosphite of calcium 160 grains
 Distilled water 9 fl. oz.

Dissolve and filter. To the filtered solution add—

Refined sugar, in coarse powder .. 1 lb.

Dissolve with the aid of a little heat, strain, and add after cooling—

Hypophosphorous acid 20 minims

Distilled water, sufficient to produce 1 pint

Mix.

Each fluid drachm contains 1 grain of hypophosphite of calcium.

Dose: 1 to 4 fluid drachms.

SYRUPUS SODII HYPOPHOSPHITIS.

Hypophosphite of sodium 160 grains
 Distilled water 3 fl. drachms

Dissolve, filter, and wash the filter with distilled water, 1 fluid drachm.

To the filtered solution add—

Syrup sufficient to produce 1 pint.

Mix.

Each fluid drachm contains 1 grain of hypophosphite of sodium.

Dose: 1 to 4 fluid drachms.

These have been introduced apparently in imitation of Churchill's syrups, and both formulæ give very satisfactory results. The only criticism that we would be tempted to make is that both syrups are too weak, for they might with advantage have been made double the strength. A common strength for syr. sodii hypophosph. is 3 grains to the drachm, and one authority gives a similar strength for syr. calcii hypophosph., though the latter can barely stand more than 2 grains. The United States National Formulary gives 2 grains to the drachm for both syrups, and it seems a pity not to conform to usage here and elsewhere as far as possible. The National Formulary orders a small quantity of citric acid in each syrup, but in the case of the hypophosphite of soda the addition of acid is quite unnecessary, and it is a moot point whether it is not also unnecessary in the case of the other.

THE STAR-ANISE INDUSTRY IN TONQUIN.

D. R. R. BLONDEL, through the medium of certain Tonquinese merchants who visited the Paris Exhibition, and with the assistance of the French Colonial Department, has brought to light a number of interesting new facts concerning the cultivation of the star-anise tree in Tonquin, which he communicates to *Repert. de Pharmac.* The actual area in which the true star-anise (*Illicium anisatum*) grows is very much smaller than that over which it was generally believed to be distributed. The trees, in fact, grow in

ONE PROVINCE OF TONQUIN ONLY

viz., that of Lang-Son, which is about the size of two average French departments. Outside the province of Lang-Son, Mr. Blondel states, not a single tree is found. The geographical limits of the province of Lang-Son are the Maõ-Son mountains and the Van-Quan territory in the West, the Tan-Moi country in the South, and the Chinese frontier in the North. A small part of the star-anise country, in fact, overlaps the Chinese boundary, but the quantity of fruit gathered on Chinese territory is very small indeed, and does not yield over 10,000 to 12,000 lbs. of essential oil, which was formerly sold by the Chinese dealers to the Hong-Kong merchants. But in the 1889 season nearly the whole of this oil has gone across the French-Indian frontier to swell the distillate of the Tonquin district, and was carried along with the latter to the market of Hai-Phong. In former seasons the directly opposite tendency prevailed, and the Lang-Son essential oil collected by the Chinese merchants was taken by them along with their own through South-Eastern China to Macao and Hong-Kong, whence English and German houses shipped it to London or Hamburg, these two markets being the central points of the trade. The exertions of the French-Indian Government have secured the future of this trade to French subjects, and the essential oil follows the Tonquin trade route. A competent judge states that

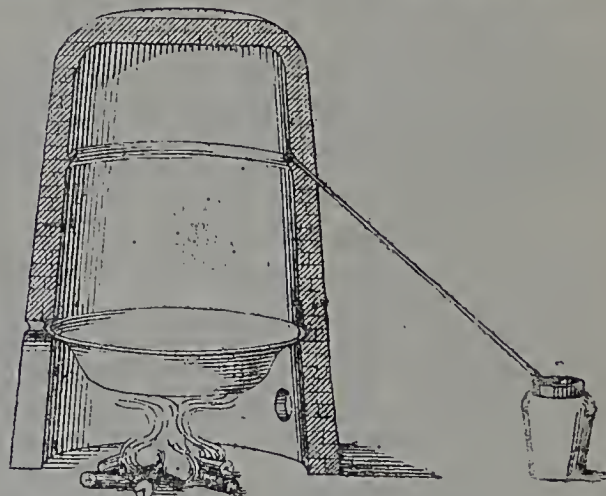
NOT ONE POUND OF OIL REACHED MACAO.

There are no regular star-anise plantations in Tonquin. The trees grow up spontaneously, in patches of varying

size, sometimes covering only 25 square feet surface and sometimes extending over 800 square feet. On the slopes of this hilly country the trees form small boscaiges, the greater part being situated on the slopes facing the sea. No special care is needed for the propagation of the trees. The attempts to cultivate the tree from seed in Hanoi and on the Bavi mountain have always failed, in spite of all the precautions taken. The natives have also failed to propagate it from cuttings, although they are remarkably clever agriculturists. The star-anise plots are the common property of the village. The crop is gathered and the distilling conducted at the public cost, and the profits afterwards divided. The tree does not yield any serviceable seed until its twelfth year, when it has grown to a height of about 14 feet. It then yields without interruption until its thirtieth to its thirty-fifth year. The trees are never cut down, even when dead: their hard and close-grained wood is regarded as sacred by the natives, who will not use it at any price. During the French campaign in Tonquin serious disputes occasionally arose when the French engineers attempted to cut down these trees for building bridges.

THE DISTILLING.

Every village possesses its own brick-built ovens, in which the distilling process is conducted; some villages have as many as fifty of these ovens, which are large structures of brickwork, from 6 to 7 feet in height, and about 4 feet in diameter at the base. They have a closed and slightly



vaulted roof. Part of the brickwork at the base of the back wall is removable, and through it the large copper distilling dish is introduced into the oven. A groove in the brickwork holds the edge of the dish and keeps it in its place. The removable piece is then replaced, thus entirely closing the oven. The seeds are put in the dish with a small quantity of water, and underneath a large wood fire is lighted, which receives air through a small hole at the front part of the brickwork. The essential oil trickles down into a groove about 2 feet below the top, and is conducted through a tin or bamboo tube, whence it passes into the collecting vessel. The distilling dish holds about 8 cwt. of fruit, which yields on the average 22 lbs. of essential oil.

The vessels containing the oil are brought to the town of Lang-Son, the total quantity sold there being from

600 TO 700 CWT. PER ANNUM.

At Lang-Son the oil is transferred from the native earthenware pots into tins, which are carried on the backs of natives to Phu-lang-Thuong, on the Song-koi, or Red River, and from there the French steamers take the bulk of the oil to Hai-Phong for shipment, a small quantity also reaching the port by road.

Besides the true star-anise trees of Lang-Son there is not another tree, true or false, to be found in the whole of Tonquin. In Annam, in the district of Quin-Hon on the coast, grows another species of *illicium*, with smaller fruits, and more arched and smoother capsules, which is regarded as poisonous, and is never gathered for distilling purposes.

FRENCH PHARMACEUTICAL NEWS.

(From our Paris Correspondent.)

THE ACADEMY OF MEDICINE has elected Dr. Tarnier its vice-president, and re-elected Dr. Féréol annual secretary for 1890. Dr. Moutard-Martin, according to rule, becomes the president for this year.

M. DUCHARTRE (PIERRE-ETIENNE-SIMON), of the section of Botany, has been elected vice-president of the Academy of Sciences for the current year; M. Hermite, late vice-president, becoming *ex-officio* the president. The newly-elected officer is, physically, the shortest and lightest weight of the whole learned company.

SLIDING INTO THE CATACOMBS.—On January 4, at the Cochin Hospital, the floor of one of Dr. Dujardin-Beaumetz's wards gently sank into the catacombs below. Fortunately, the old quarries not being there very deep, no one was injured, and the patients, somewhat scared, were transferred to another ward, while immediate repairs were begun.

EPIDEMIC INFLUENZA is slowly decreasing in Paris. The number of deaths, after exceeding three times the usual average, has now come down to about twice the ordinary figures, and applicants for hospital treatment are rapidly becoming fewer. News comes from all parts of the country to the same effect, except as regards Rouen, where a sudden recrudescence has been reported.

OBITUARY.—Several scientists have unfortunately been victims to the prevailing epidemic. The Academy of Sciences has within two weeks lost two members—M. Phillips (Edouard), of the section of mechanics, who was born in 1821 in Paris, and in 1868 was elected in the place of Léon Foucault; and Dr. Cosson (Ernest - St. Charles), a well-known botanist, who was born in 1819 in Paris, and was in 1873 elected in place of Marshal Vaillant. Botany has experienced another loss in the person of M. Domingo Parodi, a member of the Buenos-Ayres Academy, who died on January 1, in Paris. Deceased was known for his unique descriptions of the usual plants of Paraguay, Corrientes, and Misiones, which were published in the *Revista Farmaceutica* of Buenos-Ayres. His synonymy of the native and scientific names makes the work an invaluable one to students of botany and materia medica.

THE NEW PHARMACY BILL, introduced last November by Deputy Lockroy, differs in some important particulars from the previous one, which was alluded to in THE CHEMIST AND DRUGGIST of January 5, 1889, and which failed to pass last session. To the kindness of Dr. Dorveaux, the librarian of the College of Pharmacy, your correspondent is indebted for the communication of parliamentary documents, not generally accessible, containing the Pharmacy Bill and a discussion of its clauses. The following are the most important features of the proposed legislation:—(1) No Frenchman or foreigner shall practise pharmacy unless he hold a French diploma of pharmacist of the first or second class. (2) Pharmacists of the first class may establish themselves anywhere on French territory. But pharmacists of the second class may not do so in department or arrondissement chief-towns (*chefs-lieux*) or in towns of over 10,000 population. Nor shall they act as experts before courts, or as hospital pharmacists. (4) No pharmacist shall have more than one pharmacy (*officine*); he shall in person manage it, transact there no other business, have his name over the door and on the labels, and reside in the same locality. (5) No pharmaceutical business shall be carried on in partnership unless all the partners be graduated pharmacists, and one of them personally attend to the *officine*. (6) A deceased pharmacist's widow or heirs may for one year continue the business with the help of a graduate or an approved assistant. (7) No one shall practise both medicine and pharmacy, even though he may hold both diplomas. All understandings between pharmacist and physician with a view to draw profit therefrom shall be unlawful. (8) Exceptionally, physicians residing in places 4 kilometres (2½ miles) from all pharmacies shall be allowed to supply

their patients with medicines. (9) Pharmacists may sell without a prescription all harmless medicines and medicaments, a list of which shall be annexed to the Codex. (10) Poisonous medicines shall bear an orange-yellow label. A list of these shall be annexed to the Codex; also one of such substances as must not be dispensed more than once on the same prescription. (12) All persons may freely sell current family medicines and dry or fresh non-poisonous medicinal plants, a list of which shall be annexed to the Codex. No diploma of herbalist shall henceforth be conferred. (14) Industrial associations, benevolent societies, communities, etc., may have a pharmacy of their own, but it must be managed by a graduated pharmacist, and no medicines, except those specified under Art. 12, shall be sold or given gratis to the public. Hospital pharmacies alone may gratuitously dispense medicines to the out-door poor patients. (15) Provides for a decennial revision of the Codex, with the various annexes contemplated by the law. (16) and (20) All non-graduates who shall practise pharmacy or enter into partnership to this effect shall be punished with a fine of from 500f. to 3,000f., which may be doubled in case the offender be a physician; and every pharmacist accessory to the Act shall be liable to the same penalty. (18) and (19) A fine of from 200f. to 2,000f. is enacted against pharmacists of the second class, overstepping their privileges; and of 16f. to 500f. against such persons as shall dispense medicines without pretending to be graduates; should the offender be a physician, the fine may be doubled. (21) Every pharmacist, even should he be a graduate of medicine, who shall practise medicine and pharmacy at the same time, shall be liable to a fine of from 200f. to 2,000f. (22) A fine of 500f. to 2,000f. shall be imposed on pharmacists keeping in stock medicines spoiled or deteriorated through negligence; the usual penalties, besides, may be inflicted for keeping substances intentionally adulterated. (28) The present law shall apply to Algeria and colonies. And, finally, (29) enacts the abrogation of all anterior legislation, to begin with the Act of the Paris Parliament of July 23, 1748, and all preceding orders, edicts, and decrees therein recalled and re-enacted; and (30) provides for the necessary administrative regulations to be issued within a year after the passage of the law.

Now, to consider the Bill as a whole, it must be admitted to be more equitable than the one at first introduced, and to stand a better chance of becoming a law. It will be noticed, for instance, that pharmacists of the second class are frankly recognised. In the original Bill they were abolished, and it is hardly necessary to remark this was enough to defeat any pharmaceutical legislation. Public opinion is strongly in favour of pharmacists of the second class, who are very good dispensers, much needed in rural neighbourhoods. The attempted suppression was considered an act of selfishness on the part of pharmacists of the first class, who have, the public think, enough special privileges, with their exclusive rights to act as experts and hospital pharmacists, not to speak of the partial exemption from military service, which is not granted to pharmacists of the second class. It is to be feared that sect. 12, suppressing the diploma of herbalist, will prove a stumbling-block in the way of the Bill. Herbalists are quite an institution here, numerous, popular, and politically powerful. Public opinion supports them, and seems to consider all attempted interference with their vested rights another piece of selfishness. This is all the more to be regretted as the same section provides for the much needed repeal of obsolete legislation whereby pharmacists are to the present day liable to punishment for selling, without a prescription, a penny's worth of simple cerate or Epsom salt. Another feature worthy of remark is the jealous care with which the practice of medicine and that of pharmacy are kept apart. Such has always been the tendency of French legislation, but it is more striking than ever in the Bill under consideration. Dispensing physicians and prescribing pharmacists are equally abhorrent to the French idea of the healing professions. One omission also from the original Bill requires notice, namely, that of veterinary medicines. Pharmacists at first tried to monopolise such sales, but they have wisely given up their pretensions. If they would leave herbalists alone and compromise on a few minor points, they might succeed in securing what on the whole seems to be a sensible and equitable pharmacy law.

THE BOARD OF TRADE AND RAILWAY RATES.

THE CARRIAGE OF CHEMICAL MANURES.

AT the Board of Trade Inquiry, on Wednesday, Mr. Lambert, General Manager of the Great Western, was cross-examined by Mr. Baylis on behalf of the agriculturists of Berks and Oxfordshire. He stated that the charge for the conveyance of gypsum from London to Newbury was 30s. per ton, and he did not consider it excessive. The rates for mineral super-phosphates, and other chemical manures, varied from 2l. to 10l. per ton. All artificial manures were included in the same class, and there was no difference in rate, no matter what the value of the particular article might be. Chemical manures were sent to the different ports in cargoes to consignees, who distributed them from the port of arrival. There was a very keen competition for the traffic by water. Newbury was not supplied from Liverpool, but from London. Mr. Baylis said that, as a matter of fact, a large portion of the chemical manures used in Berks and Oxfordshire came from Liverpool. He wished to know whether Mr. Lambert thought that the question of chemical manures was really understood by the railway representatives?

MR. LAMBERT: We think so, certainly.

MR. BAYLIS: Then how is it that you have left out of your classification the most important of all the artificial manures?

MR. LAMBERT: When schedules of rates were originally inserted in the Railway Acts artificial manures were not so generally known as they are now, but questions in regard to them arose from time to time in Parliament and in the courts of law. There is no classification of "bones" for manure in the statutory powers of the company, but there is a heading of "all sorts of manures." The company, in fixing their rates, have been guided generally by the value of the article.

MR. BAYLIS: Are you aware that when the Great Northern of Scotland Railway Company obtained their Parliamentary powers in 1859 artificial manures were classified at a lower rate than coal?

MR. LAMBERT: It is quite possible, but I am unable to say whether or not Parliament was in ignorance of the fact that in the ten years previous to 1859 more than 2,000,000 tons of guano had been imported into this country from South America.

LORD BALFOUR OF BURLEIGH: That is a question for us rather than for a railway manager.

In further cross-examination, Mr. Lambert said he was unable to state whether prior to the advent of railways Parliament had legislated in favour of the cheap conveyance of fertilisers, nor was he aware that the opposition of the landowners to the introduction of railways was lessened in consequence of promises made by the railway companies at that time.

Upon re-examination by Mr. Pember, Q.C., Mr. Lambert justified the higher rates charged for chemical manures as compared with the rates for stable-dung by the fact that the former were a more valuable article, required greater care in conveyance, and had to be covered. Packed manures travelled very frequently in 2-ton lots.

It was stated in the course of the day by Sir H. James that at a meeting between the representatives of the railway companies and the leading traders on Tuesday an agreement had been come to, requiring the traders to tabulate their objections to the proposed schedules of rates in the case of particular articles, and stating their reasons for desiring them to be included in a different classification. The railway companies, on the other hand, are in each instance to state their reasons for objecting to the demands of the traders.

MR. BALFOUR BROWNE, Q.C., for the traders, intimated that they object to terminal charges altogether, and that they will require an extension of the existing number of classes as well as the fixing of maxima rates for large consignments and consignments at owner's risk.

LORD BALFOUR OF BURLEIGH said that the preparation of such tables would materially assist the inquiry.

Gazette.

PARTNERSHIPS DISSOLVED.

Barringer, R., Barringer, W., & Wallis, I. H. (under the style of Barringer & Brown), Munsfield, mustard, blue and blacklead manufacturers.

Cockey & Ratray, Frome Selwood, general medical practitioners.

Coffin, W. H., Coffin, H. L., & Bonnell, B. J. (under the style of Dr. C. R. Coffin & Sons), Cornwall Gardens, South Kensington, dentists; as far as regards B. J. Bonnell.

Ebsworth, S., Ebsworth, M. E., & Strickland, F. H. (under the style of the General Nursing Institute), Henrietta Street, Covent Garden, supply of trained nurses to the public.

Gabb, A. W., & Todd, H. Bansall, Cheltenham and elsewhere, surgeons and general medical practitioners.

Harrison, W. G., & Walker, W., jun. (under the style of W. G. Harrison & Co.), Liverpool, manufacturing chemists.

Hartley, J., & Spence, J. (under the style of Paton & Charles), Wapping, soap manufacturers.

Honischer, Fred. W., & Co., Lime Street, City, commission merchants.

Johnson, Rolls & Co., Mincing Lane, E.C., produce brokers; as far as regards D. Johnson.

Meadows & Ryley, Great Yarmouth, medical practitioners.

Sparapani & Wolfsberg, Birmingham, general factors.

Waddington, B. & H., Bradford, chemists, druggists, and dentists.

Worley, W. C., & Smith, J. M., Green Lanes, De Beauvoir Road, and New North Road, N., surgeons and general medical practitioners.

THE BANKRUPTCY ACT, 1883.

FIRST MEETINGS AND PUBLIC EXAMINATIONS

Hart, Thomas, Heaton Norris, pharmaceutical chemist—Jan. 10.

Official Receiver's office, Stockport; Jan. 15, Court House, Stockport.

Owen, Richard, Llanfnebreth, chemist and grocer—Jan. 17, Official Receiver's office, Chester; Feb. 6, Court House, Bangor.

Poulton, Charles, Ipswich, mineral-water manufacturer—Jan. 10, Official Receiver's office, Ipswich; Jan. 16, Shire Hall, Ipswich.

ADJUDICATION.

Poulton, Charles, Ipswich, mineral-water manufacturer.

NOTICE OF DIVIDEND.

Enright, John Anthony (trading as J. A. Enright & Co.), Llanenhy-medd, mineral-water manufacturer—first and final div. of 1s. 8½d., Jan. 14, Brynallw, Menai Bridge, Anglesey.

EXTRACTS FROM THE REGISTER OF DEEDS OF ARRANGEMENT.

Longmate, Walter Cuttell, 20 Grove Place, High Road, Tottenham, surgical instrument maker. Trustee: Jos. Freeman, 37 Villier Street, Hertford, engineer. Date, Dec. 30, 1889; filed Jan. 6, 1890; unsecured liabilities, 320l. 6s. 1d.; estimated net assets, 175l.

	£	s.	d.
Barrowcliff & Son, Nottingham	34	7	9
Crum, Chas. Hertford	50	0	0
Culver, John W., London	15	16	8
Deen & Son, London	10	3	10
Gad, Henry, London	12	0	0
Haywood, J. H., Nottingham	60	19	1
Glossop, Sheffield	30	0	0
Nicholls & Son, London	17	8	11
Nulaby, E. C., London	31	4	10

Neale, Matthew Henry, 2 Lombard Terrace, Lower Road, East Greenwich, chemist. Trustee: George White, 14 Old Jewry Chambers, E.C., chartered accountant, with a committee of inspection. Date, Dec. 24, 1889; filed Jan. 8, 1890; unsecured liabilities, 666l. 11s. 7d.; estimated net assets, 410l. By order on terms.

	£	s.	d.
Baiss Bros. & Co., London	83	0	0
Barclay & Sons, London	28	9	0
Garratt & Co., Woolwich	13	6	6
Goldsmith, L. E. J., London	250	0	0
Hills & Underwood, London	13	10	6
Maw, S., Son & Thompson, London	61	8	10
Meggeson & Co., London	about	15	0
Neale, John, Woolwich	134	12	7
Williams, Cooper & Co., London	23	0	0

POISONING CASES.

ON the afternoon of Sunday, December 29, Mr. and Mrs. Thomas Huckle, of Luton, their three daughters, and some friends, after eating their dinner, at which they had a goose, were taken ill and displayed symptoms of irritant poisoning. They still continue very ill, and the doctors are of opinion that the injurious effects have been caused by some substance which the bird had eaten just before being killed.—On New Year's Eve a young man in the employ of Mr. W. S. Powell, J.P., went over to visit a man named Hussey, head hailiff at the Old Park Farm, Margam, near Swansea. Whilst the visitor was there Mr. Hussey requested a boy in his service to get a jar of beer, but the boy, instead of bringing the beer, brought a jar containing some sheep-dip. The young man drank some, and remarked upon the queer taste. Hussey therefore asked for the jar, and took a long draught, but immediately discovered his mistake and sent for a doctor. Dr. Davies, of Taibach, attended, and did all he could, but both men died, after suffering great pain, on January 1.—On January 2 an inquest was held at Birkenhead on the body of Mary Elizabeth Bennett, the daughter of a labourer living in Laird Street. Deceased was only a month old, and on December 30 was left in the care of other children. It commenced to cry, and the eldest child gave it what she supposed to be soothing syrup. The bottle, however, from which she took the dose contained laudanum, and when the mother returned the child was very ill. A doctor was sent for, but it died in two or three hours. Verdict—"Accidental death."—At Godstone, on January 2, William Henry Marchant, aged 50, plumber and painter, died, it was supposed, from an overdose of chlorodyne. The deceased suffered from gout, and was in the habit of taking chlorodyne. Six bottles were purchased at his request on New Year's Day, and he must have taken an overdose, as only one full bottle could afterwards be found. Deceased fell asleep on the evening of January 1, and Dr. Carpenter was called in the next day, but he only partially recovered, and died the same day.—An inquest was held at the "Birkenhead," on January 3, touching the death of William Waddell (39), joiner, of Mill Street, Tranmere. On the previous day the deceased appeared to be in a rather excited state, and went to bed early. The next morning, at 10 o'clock, he was found dead in bed. A bottle containing carbolic acid was found on a table in the room, some of the contents having been taken out. Dr. McNeill was sent for, and stated that the man had been dead sometime. The deceased had purchased the acid from a chemist in Greenway Road, saying that he wanted it for a disinfectant. A verdict of "Suicide during temporary insanity" was returned.—On January 3, at Heywood, Miss B. Wolstenholme was found by her brother lying in an unconscious condition on the kitchen floor. A bottle containing some liniment composed of tincture of belladonna and ammonia was found close at hand, and as it was supposed Miss Wolstenholme had poisoned herself, Drs. Torrop and Jardine were at once sent for. The stomach-pump was used, but without success, and Miss Wolstenholme died later in the day.—An inquest was held on January 7 at Paddington on the body of Edward Condon (41), an ex-trumpeter in the 21st regiment of hussars, who was found dead in bed at a coffee-house, 61 Praed Street, Paddington, on Saturday last. Shortly after twelve on Saturday morning the deceased engaged a bed at the coffee-house in Praed Street, and the proprietor at once showed him to his bedroom. The deceased was then quite sober, and perfectly rational. At noon the door of his room being forced open, he was found lying lifeless in bed, as though asleep. On the dressing-table there were three small empty bottles, labelled "Chlorodyne," each having apparently been procured from a different chemist, and quite recently. Dr. B. Wohrtz, who was called in, and who had since made a post-mortem examination, found no disease to account for death, which was clearly due to chlorodyne poisoning. The Coroner, replying to a juror, said chlorodyne, which was a patent medicine, and could be procured at any chemist's without question, contained opium, chloroform, prussic acid, and Indian hemp, and was flavoured with sugar and peppermint. The secret was the proportion in which each poison entered into its composition. In this case the deceased perhaps took a fatal dose in a fit of

despair. The jury returned a verdict of "Suicide while of unsound mind."—A peculiar suicide, supposed to be by vermin-powder, happened on January 7 at Chester. An old man named Crawford, after dressing himself in his best clothes, and with clean linen and kid gloves, and writing on a slate a request to be hurried as found, hung a black flag from his window. The police subsequently found him lying dead, with his hands crossed on his breast.

NEW COMPANIES.

SEPOY COMPANY (LIMITED).—Capital, 1,000*l.* in 5*l.* shares. Object, to acquire a proprietary medicine lately manufactured by John H. Pearson, of Peterborough, chemist, under the style of Sepoy Rubbing Oils, Indian Balm, and Morning Liver Drops.

THE SODEN MINERAL PRODUCE COMPANY (LIMITED).—Capital, 20,000*l.* in 10*l.* shares. Object, to carry on the business of dealers in Soden mineral pastilles, Soden mineral waters, and all other things in the composition of which the waters of the mineral springs at Bad Soden, in Taunus, Germany, shall be wholly or partially employed; also the business of wholesale and retail chemists. There shall not be less than three nor more than seven directors. Qualification, 20 shares. The first are M. Frank, R. Morganstern, and L. A. R. Abenheimer, all of Frankfort, and Jean Back and J. Mammelsdorf, of 52 Bread Street, London, E.C., who are appointed managing directors with a remuneration of 600*l.*, divisible, or such sums in each year as shall amount to 10 per cent. of net profits.

HIGGOTT'S DRUG STORES.—Incorporated for the purpose of manufacturing and dealing in drugs, chemicals, and patent medicines, and carrying on the business of a co-operative store, adopting therefor an agreement made between Henry Higgott, of Market Place, Great Bridge, Staffordshire, chemist, and Samuel Higgott. Capital 500*l.* in 1*l.* shares, the whole of which are subscribed for by the vendor and members of the family.

THE SANITATION COMPANY (LIMITED).—Capital, 10,000*l.* in 5*l.* shares. Object, to carry on the business of sanitary engineering, and to undertake chemical and other analyses. G. Maxwell Lawford, C.E., of 13 Victoria Street, G. A. Hall, of 7 Victoria Street, and R. J. Arbon, 14 Victoria Street, are respectively appointed consulting engineer, consulting architect, and secretary of the company.

In Stuttgart all the pharmacies are closed at 9 P.M.

TRADE IN NEW SOUTH WALES.—The commerce of New South Wales is greatly in excess of that of any other of the Australasian colonies. Indeed, there is no part of the British dominions where the trade, in proportion to the population, is anything like as large as it is in New South Wales. The population of Canada is about 4,000,000; the total annual value of her import and export trade rarely exceeds 39,000,000*l.* The trade of New South Wales very nearly equals those figures, although the population is only about one-fourth of that of Canada. The subjoined table shows the value of the imports and exports of New South Wales for each year from 1884 to 1888, inclusive, together with an estimate of the mean population, and the value of the trade per head:—

Year	Mean Population	Imports	Exports	Trade per Head
		£	£	£ s. d.
1884	880,000	20,605,817	12,166,025	37 4 9
1885	930,000	19,861,050	11,172,821	33 7 0
1886	980,000	16,792,480	9,882,128	27 4 3
1887	1,022,000	14,020,792	10,267,755	23 15 6
1888	1,066,783	18,677,810	12,700,572	28 17 6

It will be seen from the preceding table that the values per head for 1888 are in excess of those for 1887, but below those of 1884 and 1885.

REGISTERED **"SANITAS"** TRADE MARK.
DISINFECTANTS.

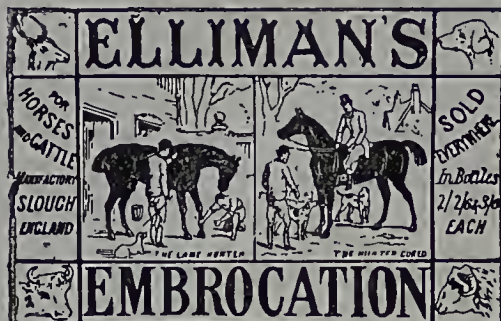
Fluids, Powders, Soaps, Tiolet & Veterinary Preparations.
 Gold Medals, Calcutta, 1884; Paris, 1885; Antwerp, 1886; Ostend, 1888.

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EDITORIAL NOTES.

THE PHARMACY BILL OF 1890.

WE are justified, we think, in expressing regret that no report of progress was made at the meeting of the Pharmaceutical Council on Wednesday in reference to the proposals for a Pharmacy Bill which, it was expected, the Law and Parliamentary Committee would submit. Their report, it was stated, was not yet ready. All we can say is, that it should have been. This dilittante method of procedure does not indicate a spirit which promises well for the measure. We all agree that some legislation is wanted. We have been advocating for years an energetic and combined effort on the part of all chemists and druggists. Only a general agreement and an earnest determination will provide the impetus necessary to push a Bill through Parliament in the present day, and the reply we get is in effect that we must be satisfied with whatever our wise advisers consider to be best for us, and that they do not wish to have any assistance from outside. What are they afraid of? They are not proposing, we suppose, to ask for anything unfair? Why, then, should their deliberations be wrapped around with this absurd veil of secrecy? The presentation of a Draft Bill to the Council at its next meeting in February—just before the meeting of Parliament—is probably intended to prevent preliminary discussion, and will necessarily be effective in attaining that end. The long series of miserable abortions which the Council have produced hitherto does not encourage much confidence in the statesmanship which they nurse so carefully, and, unless they produce a Bill this year with some more grit in it than their previous ones have contained, they may expect, not only a very half-hearted support, but some active opposition; and a little of that judiciously distributed through the country will effectually dispose of any measure

which has only the Pharmaceutical Council at its back. We may assume that their Bill, when it does see the light, will as usual put provisions for establishing the compulsory curriculum in the forefront, and we judge from the terms of the reference to the committee that some means will be adopted to restore, if possible, the flow of guineas into the Society's exchequer. For the former scheme not one chemist in ten cares five farthings, and, with regard to the latter object, the only general interest will be to see that injustice is not done to people who do not care to worship every golden image set up at 17 Bloomsbury Square. The unification of titles, suggested last month as one of the purposes in view, must mean either the degradation of the higher one or the undue elevation of the lower one. There appear to us to be strong arguments against either course of action. But these objects cannot alone furnish a popular Bill. Mr. Hampson plainly intimated in December an intention to advocate in the Bill such exclusive right to compound medical prescriptions as is possessed by the pharmacists not only of foreign countries, but also in parts of the British Empire. This is a claim the legitimacy of which we have urged for a long time. Its realisation would advance the status of British pharmacy, though it cannot be pretended that it would confer much actual pecuniary benefit on chemists. But pharmacists have no right to ask for any such recognition unless on their part they frankly admit their duty to provide all requisite guarantees of personal qualification in their shops. For this reason we should regard the adoption of the House of Lords branch shop clause as essential to any Pharmacy Bill. This would be not only a guarantee to the public, but would be also a direct benefit to registered chemists themselves, and would justify the demand that unqualified companies should be deprived of the power of misleading the public. Finally, we maintain that a clause in the Bill adding carbolic acid to the poisons schedule would be reasonable and humane, and would tend to commend the measure to the majority of members of Parliament.

PHARMACEUTICAL LEGISLATION IN FRANCE.

SOMEWHAT ahead of the British Pharmacy Bill, a new and unusually promising attempt at pharmaceutical legislation is being put forward in France. A very interesting summary of this *projet de loi* is given by our Paris correspondent, from whose abstract it will be seen that it is in charge of M. Lockroy, a deputy of eminence, and whose democratic character is unassailable. There are but few planks common to all the political platforms of France, but respect for the sacred character of the pharmaceutical calling is one of these. The law of "21 Germinal, year xi." is the principal code of law by which pharmaceutical practice is supposed to be regulated in France. That in its main features was a codification of laws passed by the Bourbons, and in its turn has been subjected to slight amendments and modifications introduced under the empires, monarchies, and republics which have in turn held sway during the present century. The notable fact is that no ruthless hand from any party has ever been stretched forth to strike a blow in favour of anything like free trade in pharmacy. In this country the Legislature demands nothing but a guarantee of competence from persons who deal in poisons. Trade in all other drugs and chemicals is open to anybody. Such recklessness is terrible in the view of Frenchmen of all classes, and indeed in view of men of all classes in all countries on the Continent. Another point on which there are not two opinions is the necessity of a strict separation of the duties of prescriber and dispenser. French-

men, Germans, Italians, Russians, Scandinavians, Spaniards, and Turks are all willing enough to die, by means of gunpowder, if necessary, but they are one and all resolved not to place themselves in the hands of their doctors, with no hope of revenge if an unlucky error or a deliberate crime should hurry things along. Britons are a very clever race, no doubt, but it takes a large dose of national self-confidence to assume that in acting in this matter contrary to the ideas of the other dozen branches of the human race by whom they are surrounded they are right and all the rest are wrong. M. Lockroy's Bill, which is based on the two principles we have indicated, is intended to be a consolidating Act, replacing all the legislation that has gone before it, and for such a Bill it seems to be as simple as it well can be. It proposes to retain the two classes of *pharmaciens*, but strictly to define their respective rights; it would throw the herb-trade open, and it leaves veterinarians undisturbed. It would define by annexes to the Codex what drugs require a physician's prescription before they can be sold, and also what can be sold by anyone. It defines rigorously the respective rights of physician and pharmacist, and it makes it clear that unqualified persons may not be commercially interested in pharmaceutical businesses. One great difficulty, that of the "spécialité," it apparently leaves untouched. This will have to be dealt with in a supplementary Act if not in this one, unless it is intended that the manufacture and exploitation of proprietary medicines shall be an open business. But, apart from that defect, the Bill seems to meet fairly well the aspirations of pharmacists, and to supply the requisite degree of protection to the public. If French pharmacists are wise they will concentrate their efforts on the support of M. Lockroy's Bill, and they ought to be reasonably happy when they have got it.

THE YEAR-BOOK OF PHARMACY.

THE volume of this annual for 1888 was peculiar in that it was published in the year whose figures it bore. How that happened we cannot tell, but several of the immediately preceding issues had come to us with greater and greater dispatch, and we had hoped that it was to become the custom to always publish the book before Christmas. This year, however, the new year has advanced a little before its pharmaceutical record up to July last, with the official report of the Conference in September, is delivered. We believe this delay is due, in part, at least, to the Unofficial Formulary Committee, who, as we intimated three months ago, had resolved to supplement their previous labours by the publication, with this Year-Book, of several formulæ upon which they had been engaged. That they came to this resolution after the Conference meeting at Newcastle, and that they had to perfect the formulæ before publishing them, are fairly good excuses for the not very serious postponement.

The formulæ are few in number, but they are of considerable importance, and we have thought it proper to devote a separate article to them, which will be found in this issue. In several instances these formulæ will "stink in the nostrils" of those who may be pecuniarily affected by their publication; still, it would be unwise on the part of pharmacists to ignore them on that account. It may be that B. P. C. preparations are not yet as familiar to medical men as it was expected two years ago they would become. But it cannot be doubted that in many hundreds of instances this unification of widely varying unofficial standards has proved to be a substantial service. We say this without prejudice to the admittedly open question of the right of an

official body to supply formulæ for preparations which are more or less of a proprietary character. This is somewhat dangerous ground, for it is evident that as soon as the imitation of specialities is commenced, the selection of victims may involve injustice, while equal treatment of all "factory-made" preparations is obviously out of the question.

If we desired to say something charmingly fresh about the Year-Book itself, we are afraid the object of our admiration would give us but little inspiration. Some 50 pages of matter more than last year make it correspondingly more valuable, assuming that the matter is up to the average standard (it certainly does not excel it). It does not appear to be the province of official publications to be enterprising. We should think it possible, with a whole year to prepare a volume, to come out at the end with something bright and smart; to give the subscribers such a taste of improvements as would make them look forward with speculation to the next volume. Thereby, possibly, the Conference as a body might be strengthened, as at the present time it is in need of strength. The 1889 volume is just like its predecessors; if anything, a little more so: new feature there is none; not an illustration to illumine the pages, nor any attempt to get a greater variety of matter in by further condensation of individual subjects. These are matters which more concern the publication committee than the editor; they should see that their annual shall equal at least the publication of the kindred association across the Atlantic; they should, with no niggardly hand, provide for illustrations, most of which, no doubt, could be got for the asking, and they should see that the Year-Book is made to represent the year's progress in all departments of pharmacy. At present it is most useful to investigators. Can it not be made equally useful to the ninety-and-nine who are not investigators?

Another slight improvement might be effected by the condensation of all matter relating to one subject into one paragraph. For example, there are four paragraphs on euonymin, pp. 180, 181; these would be more useful in a single little chapter, especially if supplemented by some editorial comments on all that was said and written about euonymin. Something of the kind seems to have been called for, especially as the controversy was the expression of a pronounced evil which was at the time afflicting pharmacy. It would also be an advantage to readers if the volume and page of THE CHEMIST AND DRUGGIST were mentioned, as we give two in one year, instead of such expressions as "1889, 337." We have noticed several trifling slips in the volume. One deserves mention. It is the duplication of a formula for tincture of mustard. This is given in the materia medica and pharmacy section on page 223, and again in "Notes and Formulæ" page 243. But it will be noted that according to the first the product is to measure "1 quart," in the second it is to be "32 oz." This is because the latter has been taken from THE CHEMIST AND DRUGGIST, which always prefers to print the American pint equivalent in ounces (16 oz.), as the difference between it and the English pint is considerable. We shall not attempt to catalogue the omissions from the volume; we merely ask what has become of the Editor's note on Mr. F. W. Fletcher's unquestionably important papers on tinctures?

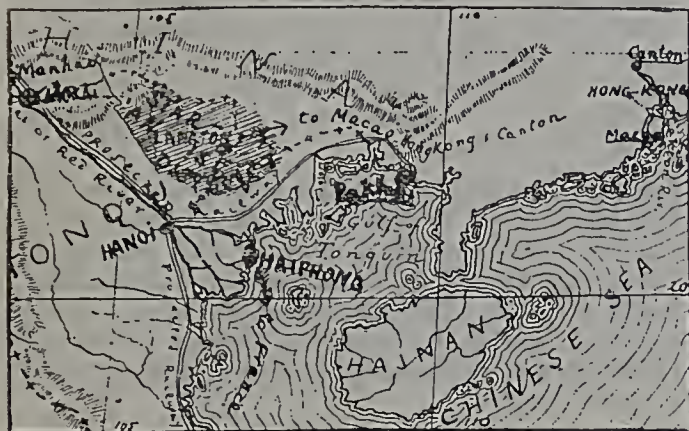
STAR-ANISE OIL.

For some time past the price of essential oil of star-anise has been slowly creeping upwards, and since the latter half of December there has also been an important advance in the quotations for the seed itself, no stock of which seems to be available on the spot, while the shippers in the

Chinese ports, who have hitherto controlled the article, are only offering sparingly and at high prices. The scanty news which reaches Europe from the Chinese ports is to the effect that the merchants trading with the interior have not been able to obtain as large a supply as usual of the oil or the seed in consequence of the smallness of the season's crop, and forecast still higher rates for the near future. It has frequently happened that such reports are only circulated in the interests of a few dealers who are keeping back the supplies in order to force up the market, but in connection with the present apparent scarcity of star-anise in the Chinese ports, some special importance attaches to a paper just published by Dr. R. Blondel, of Paris, and which, if correct, presents in perhaps a different aspect the cause of the bareness of the Chinese markets. Dr. Blondel, whose investigations were materially aided by the French Colonial Department, which, so far at any rate as its representatives at the Paris Exhibition were concerned, certainly did not shine by its willingness to assist foreign journalists in obtaining information, has been investigating the star-anise industry in the new French possessions in Indo-China, and he has arrived at the important conclusion that the tree from which the star-anise oil of commerce is obtained is confined to a much smaller area than was generally supposed to be the case. Most pharmacologists give the habitat of the tree as South-western China, and many name the provinces of Yunnan, Quang-si, and Fo-Kien as producing the bulk of the drug, others also including Tonquin and Annam. But Dr. Blondel positively assures us that the true star-anise tree grows nowhere except in one province of what is now the French colony of Tonquin, and he thereby confirms the statement, also emanating from a French official source, which was reproduced in our issue of June 8 last. This statement was to the effect that the recent French conquests in Indo-China had brought the bulk of the districts in which star-anise was produced under French control, and that one of the first acts of the French authorities had been to lease the right to purchase oil from the natives to a French subject.

But Dr. Blondel's assertion that the tree is absolutely non-existent outside the now French province of Lang-son, and that it cannot ever be propagated elsewhere, places this matter in a more serious light so far as the commercial aspect of the question is concerned, and, if correct, may, perhaps, explain why we cannot now obtain the usual quantities from our accustomed sources of supply. The anxiety of the French Government to secure the whole of their Colonial trade for their own markets is notorious, and the authorities in Tonquin would only be acting up to their usual policy in preventing the Chinese dealers, who, until last season, were in the habit of buying up the essential oil in the Tonquinese villages and taking it over the Chinese border to Macao, Canton, and Hong Kong, from continuing that trade, and in giving the whole of the production into the hands of French dealers to take it to Hanoi and Haiphong, the Tonquinese ports, and ship it from there to France direct. Our sketch-map shows this deviation of the trade route, and indicates the way by which the drug is now taken from the province of Lang-son, *via* Hanoi and Haiphong, to the French ports. We doubt whether Dr. Blondel is correct in saying that no star-anise whatever is produced in China proper, but it is probably true that the bulk of the crop is really distilled in the district indicated by him, and we must expect, in future, to become almost entirely dependent upon Havre or Marseilles for our supply of the drug. Another matter of some interest in Dr. Blondel's paper, of which we print an abstract in another part of this issue, is a definite account of the average

annual production of the oil. In the Chinese export statistics star-anise and cassia oils are bracketed together, and it has not hitherto been possible to estimate accurately



the annual output of each. But we are now told that the total yield of oil of star-anise alone is about 75,000 lbs. per year. It will be remembered that in the early part of 1888 there was some correspondence in our columns concerning a statement made by Mr. John Moss that the consumption of oil of star-anise was perhaps a thousand times larger than that of the oil of the European anise. At that time Messrs. Schimmel & Co., who took exception to Mr. Moss's assertion, estimated the production of oil of European anise at about 94,000 lbs. per annum, and questioned whether the production of oil of star-anise amounted to as much as that. Mr. Blondel's figures, if correct, bear out the German firm's contention, though the French doctor's estimate is rather below that given by the French official source, to which we have alluded, in which the yearly production in the French colonies alone was estimated at 112,000 lbs.

Though the market for star-anise oil for the last few years has usually been dull and drooping, the seeds have generally been rather scarce, and a comparatively high price has always been paid for them. For the oil there does not appear to be much hope of any great improvement in price so long as the raw material from which the European oil of anise is distilled remains as cheap as it has been of late, but there is still room for a small advance before the price reaches the average of the last ten years. The highest quotation of late years was in November 1878, when a speculator, pressed for the delivery of 100 cases which he had sold without being covered, had the price run up against him from about 6s. 6d. to 11s. per lb., though after he had effected his purchase the quotation came down again as rapidly as it had advanced. The bulk of the star-anise oil is consumed in the United States and in Southern Europe, and the fact that the United Kingdom is not the most important consumer of the article will render it even more easy for this trade to leave our market than would otherwise have been the case.

THE CARRIAGE OF "SMALLS."

A SOMEWHAT interesting point has been raised by Mr. Arnold-Forster, one of the managing partners of Cassell's, (Limited), who has been acting on behalf of the book and stationery trades in conference with representatives of the railway companies, and in connection with the current controversy as to the charges for the carriage of goods by goods trains. Mr. Forster seems to have almost succeeded in persuading the representatives of the railway companies to reduce the classification of most of the goods generally sent in book and stationery parcels to Class 3, instead of

leaving them scattered about as they now are among Classes 3, 4, and 5. The railway people do not object to grant this if they can find some formula whereby they can secure that costly books in elaborate binding, precious engravings, mounted maps, and the like shall remain in the highest class. But even if he obtain this concession, Mr. Forster finds that a very thick bar blocks his way to perfect happiness. Nine-tenths of the parcels in his trade go as "smalls," that is, are under 560 lbs. in weight. The maximum rate proposed for "smalls" is double the highest class rates, and it occurs to Mr. Forster to ask himself what good is to come from the concessions made in the classification dispute if his parcels are to remain, after all, outside that classification. He therefore urges the railway companies to give him and his fellow-traders generally some corresponding advantage; either to establish several classes of "smalls," or to let "smalls" be limited to 1 cwt. instead of to 5 cwt., as at present and as proposed. The railway people say, reasonably enough, that they cannot be expected to give proportionate tonnage rates for the carriage of 1 or 2 cwt., but they might be willing to agree to some sliding scale. Mr. Forster suggests that an arrangement by which the rates charged for "smalls" might be referable to the classification of the goods which they contain would be fair both to the railway companies and to the traders. The present charge for a parcel of "smalls" is not made with any reference to the tonnage rate for the articles which the parcel contains, and thus the new parliamentary classification is practically without value to senders of parcels under 560 lbs. weight. It seems not unreasonable to suggest that the rates for "smalls"—say of the third class—should be based upon the current tonnage rates for goods of the same class, *plus* a certain percentage to compensate for cost of handling &c.—a percentage which would vary inversely to the size of the parcel. A similar arrangement would, of course, apply to parcels in all the other classes. Mr. Forster will be glad of support from other bodies for his proposals, and he has asked us to submit the matter to the drug trade, which is as much concerned with "smalls" as is the book trade. We have already pointed out that no practical result is likely to follow any re-arrangement of the classification and maximum rates which Parliament may sanction as the outcome of the academic discussion now proceeding at Westminster. The maximum rates will certainly, in any event, be considerably higher than the companies charge now, or will charge under any probable array of circumstances. But if there is any purpose in getting the rates and the classification logically accurate, Mr. Forster, it seems to us, presents a strong case, and it may be advisable for the drug trade to support him.

PENNY QUININE.

FOR some time readers of this journal must have been prepared for the advent of the "Penny Quinine," which has now become an accomplished fact. By "penny quinine" is meant quinine pills in small boxes to sell at a price far below the customary charge of even those chemists who have adopted modern commercial notions. "Penny quinine" is a taking catchword, and the originator of the phrase, if he knows how to take at the flood the flowing tide of influenza, may probably discover that his goods, if we may use the well-worn saw, supply a long-felt want. It is likely that some chemists will not look favourably upon the innovation, but the fact remains that it is there, and that the purveyors of cheap quinine for the million have apparently firmly made up their minds to appeal to the public for support. It will, therefore, be for the trade to

decide whether they are willing to become the medium through which the quinine for the million is to reach its destination, or whether they will stand by and allow this business to be deviated into other channels. There can be no question that the remarkable cheapening of quinine in quantity during the last decade has not been followed by a proportionate reduction in its price to the general consumer. To the manufacturer, the broker, the wholesale dealer, and the speculator quinine has for many years been a rather unprofitable article, and perhaps the most remarkable feature about the present movement to place the drug in a cheap form before the public is that it has been deferred so long. We have now before us samples of the cheap quinine pills manufactured by the Auerbach Quinine Works in Germany, and brought upon the market here by the agents for that factory, Messrs. Oscar Andreae & Co., of 26 Great Tower Street, E.C., and of the "penny quinine," of which Mr. Rivers Hicks, of 5 Savage Gardens, Tower Hill, E.C., is the originator. The Auerbach factory, we believe, have long been in the habit of quoting quinine pills in their price-lists, but they have only just commenced pushing their sale of the article in the present form. The pills are put up in small coloured-paper cartons, each holding four 2-grain sugar-coated pills, the notion being that the contents of a carton, 8 grains, shall form an average daily dose. Twelve cartons are placed in a card-board box, with instructions, and the whole compact package can easily be carried in the waistcoat pocket. Mr. Hicks, who claims to have had the penny quinine idea in his mind for the last ten years, gives sixteen 1-grain pearl-coated pills in a small metal box, very nicely got up, about half the size of the small metal pig-in-clover boxes, which he expects to rival, if not to exceed, in popularity. He is making arrangements, we understand, to have the pills stamped with the dose and name in various languages. The box of sixteen pills is to retail at 4d., and the Auerbach pills are to be sold at a corresponding rate, if not even cheaper, though in both cases a comparatively large trade discount is allowed. We believe that Mr. Hicks's original idea was to push the sale of his pills more particularly in India, China, and other fever-stricken foreign countries, but the present epidemic has been an incentive to attempt to popularise them in this country also.

Such are the facts regarding the present development of the cheap quinine idea, which is pithily, if not perhaps with literal accuracy, expressed in the words "penny quinine." It is scarcely likely that two well-equipped manufacturers, thoroughly posted with regard to the wholesale market, and in the possession of all the facilities for turning out cheap quinine pills by the hundred-thousand, have embarked upon their enterprise without calculating the opposition which they are likely to encounter, or without the determination to face it. They can command a practically unlimited supply of raw material at the cheapest wholesale price; nor is there any prospect at present that quinine will advance to such an extent as to oblige them to revise their quotations to any considerable extent. They expect to find their profit in the sale of their goods on a scale of magnitude which can be attained only by appealing to the public. They naturally look to the chemists as the channel through which to hand over their goods to the consumers. But if they should find this channel blocked they will equally naturally turn their efforts into another direction. The quinine pills are not a patent medicine—anyone can make them; but the strength of the two manufacturers, who have already commenced operations, lies in being first in the field, and in the circumstance that their own profits are already calculated on so modest a scale as to leave little room for displacement.

COMMENTARY.

INCE'S LATIN GRAMMAR.—We have pleasure in congratulating Mr. Joseph Ince on the continued success of his excellent "Latin Grammar of Pharmacy." A fifth edition has just been published by Messrs. Baillière, Tindal & Cox. The work appears to be an established necessity in the early education of a chemist.

INFLUENZA REMEDIES.—Menthol is being taken up as a remedy for influenza, Mr. Lennox Brown, Dr. Macnaughton Jones, and others speaking well of it. It is preferred to administer the remedy by inhalation with a dry inhaler. Although it will be a long time before the victims of the epidemic can possibly use up all the menthol in this way, the fact that it is an influenza remedy has slightly affected the price of menthol.

IODINE IN SEaweEDS.—*Fucus vesiculosus* has been examined by L. van Italie with the view of ascertaining how much iodine the plant contains and in what form it exists (*Arch. d. Phar.*). He found the percentage of iodine to be 0.0113, and that it exists as an iodide. The plant was examined for bromine without definite result. At the same time Irish moss (*Chondrus crispus*) was examined, and the amount of iodine in it was found to be very slight.

LITMUS AND ACIDS.—It is a curious fact that dry litmus-paper is not turned red by absolute hydrochloric acid, glacial acetic, and other acids, which are practically anhydrous. Nitric acid is an exception, probably for the reason which Mr. J. E. Marsh gives in the *Chemical News*, viz., that it oxidises and liberates water. Water is a necessary element in the production of the red colour which is considered to be one of the characteristics of acids.

EUCALYPTOL OR EUCALYPTOL flashed upon the world early in 1887, its patron, a Dr. Schmeltz, recommending it as an antiseptic. We stated at the time that it was composed of 6 parts of salicylic acid and 1 each of phenol and eucalyptus oil. We had thought that the article had fallen out of use, but it seems not, for M. Pannetier writes an article about it under the title "Sur l'Eucalyptol" in the *Journal de Pharmacie et de Chimie*. M. Pannetier proves in a satisfactory manner that the fluid is a mixture of the substances named, but he does this a little late in the day, and it would have been better if he had not confounded it with the tolerably definite principle of eucalyptus oil, known universally as eucalyptol.

THE UNQUALIFIED SELLER.—It is stated that the Pharmaceutical Society have commenced proceedings against the manager of one of the drug stores in this locality, and that five penalties of 5*l.* each are claimed. Some chemists who have been indignant at the late Wandsworth prosecution may see the reasonableness of the judicial interpretation of the law when it is applied to a store. With regard to the subscriptions which have been sent to us in aid of the proposed appeal in the case of the Pharmaceutical Society v. Wheeldon, we think it right to ask those in whose hands the initiative of renewed proceedings lies to let us know what are their intentions. There is, apparently, not enough backbone in the opposition to ensure a satisfactory fight and we presume this fact will have to be recognised before long. If that decision should be arrived at, we shall return the money we are holding in trust to the contributors.

THE NEW GERMAN PHARMACOPOEIA.—The title of the new German Pharmacopoeia will be "Deutsches Arzneibuch (Pharmacopoea Germanica, ed. III)." The *Pharmaceutische*

Zeitung rejoices at the circumstance that the new work is to be printed in German, instead of, as heretofore, in Latin only, and points out that the English and French Pharmacopœias have been published in the vernacular "for centuries." If, says our colleague, it was proper to publish a pharmacopœia in Latin, it would also have been correct to publish the code of commercial law in Hebrew, and the regulations concerning legal procedure in Greek. There is, however, a strong feeling among the "high-toned" pharmacists that the decision to publish the new work in plain German will tend to vulgarise medicine. Even such an eminent pharmacist as Hager states that he is afraid that the new Pharmacopœia may become a "cookery-book." Formerly, when the principal German States had Pharmacopœias of their own, those of Hanover and Würtemberg were printed in German. That part of the examination for apprentices requiring candidates to possess a thorough knowledge of Latin will be done away with under the new Pharmacopœia.

FAILURES IN 1889.—According to the statistics compiled by Mr. Richard Seyd, F.S.S., the total number of failures in the United Kingdom in 1889 was 8,732, of which 5,272 were bankruptcies, and 3,460 deeds of arrangement. This compares with a total of 9,217 in 1888, viz., 5,820 bankruptcies, and 3,397 deeds of arrangement. These are the only two years in which both classes of failures have been recorded, and it is too early to argue anything from these records as to the relative popularity of the two forms of surrender. Wholesale druggists contributed 15 (12 bankruptcies and 3 arrangements) to the total in 1888; and 11 (5 bankruptcies and 6 arrangements) in 1889. The retail drug trade figures for 56 failures in 1888, and for 59 in 1889. The bankruptcies were 36 of the total both in 1888 and 1889. The medical profession (including dentists) had a record of 53 failures last year against 45 in 1888, but the aerated water trade shared in the general improvement, scoring only 31 bad marks against 38 in the previous year.

GUM ARABIC.—According to a telegram from Cairo, Osman Digna has come to Kassara, and there is reason to believe that he wants to open up commerce between the interior and Egypt. That means renewed supplies of gum and of ivory. We are a little sorry that the credit of a first sign of returning sense should not have come from our side, but this is what we are accustomed to. Between soldiers on one side and lawyers on the other, common sense can hardly get a look in; but if Osman is really disposed for business, it is to be hoped that nobody will check him. From the scraps of information which reach us it would appear that the Mahdi and his lieutenants are men of more than average intelligence, and an easy fortune awaits anyone who shall intermediate between them and Mincing Lane. To accomplish such a result a little acquaintance with Arabic, a strong constitution, and a leaning towards Mohammedanism are the principal requisites. We would not advise anybody to renounce his faith for the sake of trade, but there are a number of practical heathen on the confines of the drug trade whose conversion to any form of religion would be a step forward. Will not some of these volunteer?

THE ROLL-CALL.—The influenza fiend's clammy claws have been laid heavily upon the drug trade since the opening of the year. In Messrs. S. Maw, Son & Thompson's establishment forty-seven employes were on the sick-list last week, but yesterday the number had diminished to twenty-nine, "chiefly suffering from influenza." Of Messrs. Burroughs, Wellcome & Co.'s staffs in London and Dartford, between forty and fifty are laid up. One of our staff, who happened to call at the office on Wednesday, found the atmosphere

redolent of the odour of eucalyptia, the result of Mr. Burroughs' scheme of antiseptic ventilation, and he ascertained the curious fact that the half dozen who are absent from the office were all seized with *la grippe* on Sunday—the very day when they had not the benefit of a sterilised atmosphere. At Messrs. Lynch & Co.'s establishment, in Aldersgate Street, only three of the sixty-seven are suffering, we are informed, either from an attack or fright of the influenza. Messrs. Lynch & Co. attribute their immunity to the fact of having administered, on the first symptoms of the illness, half a tabloid of ammonium and one tabloid of quinine (Burroughs, Wellcome & Co.'s), repeated every two hours, with most marked success. Messrs. Newbery & Sons have one principal, three clerks, and two warehouse hands laid up with the disease. Probably, they say, "some of these cases are of a sympathetic character, the contagium having found a suitable nidus (or environment?) in a nervous subject." Messrs. Thompson, Walters, Hale & Co. (Limited) tell us that "a large number" of their employes are down with the influenza, and that they have been obliged to obtain temporary help for the due execution of their orders. Messrs. Lorimer & Co., of Britannia Row, Islington, have over twenty of their employes on the sick-list. Mr. A. H. Mason, of Seabury & Johnson, and Mr. Schacht, of Finsbury Pavement, are also down; while the London County Council suffers sympathetically in the person of Mr. T. Howell Williams (Idris & Co.), but Mr. McDougall is believed to have succeeded in purifying the atmosphere around himself to such an extent as to be germ-proof. From Messrs. Evans, Lescher & Webb's establishment twelve employes are absent, and ten are away at Messrs. Barron, Harvey & Co.'s, in Giltspur Street. We had occasion early this week to call upon a firm well known in connection with the China drug trade, and were received by the sole remaining member of an office staff of a normal strength of ten or twelve. Quinine (for *bona-fide* consumption) is in general demand among the Mincing Lane people, on account of its supposed efficacy as a preventative, but we hear of many other remedies also extensively patronised. One well-known man on 'Change appears to have pinned his faith to menthol to such an extent that he actually imagines the price to have suddenly risen about 100 per cent., and a broker is said to be eating small pieces of asafoetida, probably in the belief that the Demon of Disease cannot be kept at bay by anything less evil-smelling. At the drysaltery auctions a gaunt figure, muffled up from head to foot, appeared among the audience, and upon taking its accustomed place was met with loud invitations to sit apart, and enquiries as to whether he had been disinfected. At our own office there are only six away at present, and we are happy to say that up to the time of going to press our editorial staff preserves an unbroken front; but our printers (Messrs. Spottiswoode & Co.) have about 150 of their hands absent, influenza being the alleged cause in most of the cases. Influenza also claims for its victims Mr. Charles Umney, Mr. Grimwade (Grimwade, Ridley & Co.), Mr. A. W. Shirley, and Mr. J. J. Hicks, the scientific instrument maker. Mr. Dixon (H. Gilbertson & Son) has just returned to business after an attack to find eight of his employes absent, and Ford, Shapland & Co., have cleven of their hands off.

In these times the chemist ought to be the last to succumb, and with this idea a West-end firm of chemists has caused the following notice to be posted up in their laboratories, warehouse, and factory: "Influenza Prophylactic. All hands are to take two fluid drachms of ammoniated tincture of quinine, well diluted with water, twice daily, at twelve and four o'clock, until further notice."

ADVERTISEMENTS IN THE DIARY.

POST-CARD COMPETITION.

WE received 436 post-cards whereon competitors had given their opinions as to the advertisements in THE CHEMISTS' AND DRUGGISTS' DIARY for 1890 in reply to the questions we asked. Besides those, sixteen cards were received after the date fixed, and of these, in accordance with the stated conditions, we took no note. As always happens, some correspondents mistook the questions, and several of the literary pages were given as the "most useful" or the "most novel." But after sifting out these misapprehensions we get the following results:—

The first question we asked was, which was

THE MOST EFFECTIVE ADVERTISEMENT?

The votes ran as under:—

Burroughs, Wellcome & Co. (121 to 148)	147
Pears' Soap (69)	75
Hearon, Squire & Francis (185)	49
Sequah, Limited (296)	36
Tunbridge & Wright (12)	23
Stevenson & Howell (283)	8
Austin & Co. (367); Fletcher, Fletcher & Stevenson (17); Kangra Valley Indian Tea Growers' Association (87)	7
Shirley, A. W. (94, 95)	5
Christy & Co. (99); Clarke's Blood Mixture (313); Fordham & Sons (3); Half-Price Closed Letter Co. (373); Hamilton & Co. (394); Stern, G. G. (37)	4
Allen & Hanburys (207); Crown Perfumery Co. (9); Hay, W. (215); Mann & Co. (57); The Great Tower Street Tea Co. (85); Warrick Brothers (53); Watson & Wates (393)	3
Chave & Jackson (101)	2
Batger & Co. (77); Brown, Johnson & Latimer (4); Burroughs, Wellcome & Co. (110); Clarke, S. (92); Condal Water Co. (397); Goodall, Backhouse & Co. (83); Howards & Sons (183); Johnson & Johnson (363); Leath & Ross (1); Natali, E. (46); Parmenter & Co. (368); Prosser, Taylor & Co. (284); Smith & Co. (381); South London School of Pharmacy (29)	1

Competitors gave their opinions on

THE MOST USEFUL ADVERTISEMENTS

as under:—

Burroughs, Wellcome & Co. (121 to 147)	161
Breffitt's (336 to 346)	88
Fordham & Sons (3)	66
Pears' Soap (69)	9
Bailey & Sons (102, 103); Half-Price Closed Letter Co. (373)	7
Kangra Valley Indian Tea Growers' Association (86-87); Great Tower Street Tea Co. (85)	6
Austin & Co. (369); Clarke's Blood Mixture (313)	5
Christy & Co. (99); Hearon, Squire & Francis (185); Hockin, Wilson & Co. (96 to 98)	4
Clarke, S. (92); Kent & Sons (375); Stevenson & Howell (283); Tunbridge & Wright (12)	3
Allen & Hanburys (207); Bourne, Johnson & Co. (4); Fletcher, Fletcher & Stevenson (17, 18); Ford, Shapland & Co. (34); Goodall, Backhouse & Co. (83); Natali, E. (46); Powell & Co. (326); Shirley, A. W. (94, 95); Stokes & Co. (43); Warrick Bros. (53); Westminster College of Pharmacy (30)	2
Andrews (74); Beecham (303); Blondeau et Cie (11); Blyton & Co. (90, 91); Botwright & Grey (32); Evans, Sons & Co. (230); Elliman (237); Fentiman & Co. (316); Gilbertson & Son (6); Hamilton & Co. (394); Hay, W. (215); Hearn & Co. (349); Hill & Son (186); Ingram (396); Loft (44); Lynch & Co. (3); Mann & Co. (57); Mottershead & Co. (81); May, Roberts & Co. (333, 334); Mawson (74); S. Maw, Son & Thompson (5); Orme & Co. (27); Perken, Son & Rayment (19); Robinson & Sons (300); Truefitt, Limited (61); Wright, Layman & Umney (321)	1

The majority was not quite so large when

THE MOST NOVEL ADVERTISEMENT

had to be selected, but it was emphatic enough. The voting ran as follows:—

Burroughs, Wellcome & Co. (121 to 147)	131
Bourne, Johnson & Co. (4)	90
Sequah (Limited) (296)	83
Tunbridge & Wright (12)	19
Hearon, Squire & Francis (185)	17
Christy & Co. (99)	14
Kangra Valley Indian Tea Growers' Association (86, 87)	10
Bowers Bros. (28); Half-Price Closed Letter Post Co. (373)	8
Pascall (395)	7
Fordham & Sons (3); Mann & Co. (57)	5
Jenkinson, J. H. D. (241)	4
Clarke, S. (92); Hamilton & Co. (394); Pears (69); Rowntree (82); Stern, G. & G. (40); Stevenson & Howell (283)	3
Austin & Co. (369); Chalmers, W. & B. (372); Shirley, A. W. (94)	2
American Camera Co. (41); Andrew (74); Blondeau (11); Bush & Co. (221); Colthurst & Harding (387); Crown Perfumery Co. (9); Hay W. (215); Hicks, J. J. (26); Kemp (319); Möller (324); Warrick Bros. (53)	1

Next our correspondents had to decide on

THE BEST-LOOKING PAGE ADVERTISEMENT,

and they came to the following conclusions:—

Warrick Bros. (53)	133
Pears	69
Hay, W. (215)	41
Hearon, Squire & Francis (185)	35
Stevenson & Howell (283)	33
Hamilton & Co. (394)	17
Sequah, Limited (296)	11
Fordham & Sons (3); Stern, G. & G. (37)	10
Mann & Co. (57)	8
Austin & Co. (369); Kangra Valley Indian Tea Growers' Association (86-87)	7
Westminster College of Pharmacy (30)	6
Allen & Hanburys (207); Bush & Co. (221); Crown Perfumery Co. (9); Hill & Son (186)	4
Evans, Sons & Co. (230); Fletcher, Fletcher & Stevenson (17); Great Tower Street Tea Company (85); Howards & Sons (183); Prosser, Taylor & Co. (284)	3
Blyton & Co. (91); Colthurst & Harding (387); Clarke, S. (92); Cresswell & Co. (100); Evans, Sons & Co. (198); Kilner Bros. (347)	2
Bailey, W. H. (102); Boehringer & Söhne (203); Burroughs, Wellcome & Co. (110); Chave & Jackson (101); Cresswell Bros. (70); Duckworth & Co. (219); Gridley & Co. (335); Keene & Ashwell (398); Kent & Sons (376); S. Maw, Son & Thompson (5); May, Roberts & Co. (332); Oldfield, Pattison & Co. (71); Pascall, J. (395); Powell, A. E. (326); Robinson & Sons (371); Shirley, A. W. (94); Silicated Carbon Filter Co. (76); Tunbridge & Wright (12); Watson & Wates (393)	1

In regard to

THE BEST-LOOKING HALF-PAGE ADVERTISEMENT

the following result was attained:—

Squire & Sons (181)	104
Silverlock, H. (43)	35
Hicks, J. J. (26)	29
Rowntree (82)	20
Australian Drug Co. (285)	17
Murray, Sir J., & Son (320)	16
Stokes, G. R. (48)	16
Jenkinson, J. H. D. (241)	15
Sanders & Son (58)	13
Lorimer & Co. (292)	12
Bowling & Govier (47); Pattison, G. (109)	10
Jowsbury & Brown (218); Marshall, J. (78)	9
Cyclostyle Co. (42); Tyrer, P. (93); York Glass Co. (350)	8

American Camera Co. (41); Saul & Co. (285); Wood, V. (362)	6
Attwood & Co. (366); Mawson & Co. (74); Mills, R. M. (216); Sutton, O., & Co. (66)	5
Bush & Co. (221); Clarke, S. (92); Duckworth & Co. (219); Knight & Co. (382); Warner, W. R. (ii.)	4
Barnett & Foster (224); Geraut & Co. (227); Hamilton & Co. (394); Melin, C. (224); Roake, Tompsitt & Co. (286)	3
Paseall J. (395); Van Houten (246)	2
Bayley's & Co. (54); Boehm, G. (50); Bracher & Co. (365); Davies & Co. (43); Godfrey & Cooke (328); Haywood, J. H. (362); Jujube Factory (88); Liebig (ii.); Sanger & Sons (310); Smith & Co. (304); Stevenson & Howell (283); Stewart & Co. (93); The Spirone Co. (360); Treatt, R. C. (62); Wilson, A. W. (325); Williamson & Sons (388); Woolley & Son (181); Young, H. (169)	1

Opinions as to

THE BEST-LOOKING QUARTER-PAGE ADVERTISEMENT

were more evenly divided, as will be seen by the subjoined:—

Invigorine Manufacturing Co. (218)	46
Kemp, W. H. (319)	44
Bowers Brothers (28)	39
Kay Brothers, Limited (319)	32
Fry & Sons (82)	31
Swift Specific Co. (148)	30
Edwards & Co. (56)	26
Bovril (Limited)	22
Seabury & Johnson (318)	19
Wood, M. W. (50)	14
Denayer's Peptone Company (84)	13
Bates & Co. (309)	12
Hayman & Co. (311)	9
Burroughs, Wellcome & Co. (148)	7
Brand & Co. (84)	5
Symes & Co. (302)	4
Beckett, W. (220); Brooke, W. (348); Critchley, T. (379); Foster, F. (364); Lang & Co. (350); Waterston & Sons (105)	3
Anderson & Adams (328); Barnett & Foster (224); Berry, F. H. (32); Bygrave, J. & W. (190); Corner, R. (243); Davies & Co. (43); Faulding & Co. (289); Kinmond (222); Lalor, Dr. (321); Leo & Co. (321); Shew & Co. (32); Spong & Son (243); Stone, W. (41); Taddy & Co. (105); Williamson & Sons (386); Zuccato & Co. (42)	2
Barker & Son (379); Beyers Bros. (290); Botwright & Grey (32); Bowdlear & Co. (389); Bragg, J. L. (72); Bristow & Co. (60); Chiswick Soap Co. (63); Clark & Co. (388); Cocking & Co. (288); Elliman, Sons & Co. (237); Fox & Sons (306); Gardner & Sons (306); Greensill & Co. (60); Harston & Co. (224); Hayward, Tyler & Co. (224); Hicks, R. (311); Holroyd & Co. (364); Jessop & Co. (380); Jewsbury & Brown (66); Jeyes Sanitary Compounds Co. (242); Knight & Co. (382); Koptea Cure (321); Liebig's Dietetic Drug Co. Lim. (84); Raphael & Co. (32); Salport Bros. (392); Southall Bros. & Barelay (246); Woollams & Co. (389); Wright & Co. (148)	1

The general result, therefore, according to the votes of those who took part in this competition, is as follows:—

The Most Effective Advertisement—Messrs. Burroughs, Wellcome & Co.'s 28 pages (121 to 147).

The Most Useful Advertisement—Messrs. Burroughs, Wellcome & Co.'s pages (121 to 147).

The Most Novel Advertisement—Messrs. Burroughs, Wellcome & Co.'s pages (121 to 147).

The Best-looking Page Advertisement—Messrs. Warriek Brothers' page (53).

The Best-looking Half-page.—Messrs. Squire & Sons' advertisement of Kasak on page 181.

The Best-looking Quarter-page—The Invigorine Company's advertisement on page 218.

This exact result was foreshadowed by two correspondents—namely, by R. HARPER, 42 Fleet Street, Belfast, and G. F. EGG, 19 The Terrace, Camberwell, S.E. Six other correspondents managed to foretell five out of the six chosen advertisements correctly, and 39 hit on four of them.

We shall send 21s. each to Messrs. HARPER and EGG.

Notes of Novelities.

NEW INHALER.

It seems that menthol is one of the principal cures for influenza; at any rate, in connection with the use of menthol

Fig. 1.

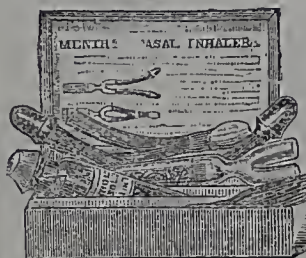


Fig. 2.



Fig. 3.



as an inhalant, Dr. Maenaughton Jones describes in the *Lancet* a pocket nasal menthol inhaler made by Burroughs, Wellcome & Co. (fig. 1) It contains a strong forked glass inhaler (fig. 2), to which the nasal pieces are attached. The glass tube is filled with pine sawdust retained by a gauze diaphragm at the open end. On this the solution of menthol (1 in 7 of olive oil) is dropped. The nasal pieces are inserted into the nostrils and the vapour is inhaled. For oral inhalation there is a separate forked rubber tube (fig. 3), with mouthpiece attached. The whole are put up in the box, with a thick camel's-hair brush for direct application of the menthol solution to the mucous membrane, if this be desirable. The entire apparatus occupies very little space, and is readily carried in the pocket. This is a neat little novelty, and well worth attention by chemists, who at this time ought to be making a harvest out of the epidemic.

Trade Notes.

MESSRS. PLA, MUÑOZ Y CIA. have opened a chemical works at San Martin de Provencas, a suburb of Barcelona, where they manufacture over one hundred varieties of pharmaceutical chemicals.

OUR advertisement pages are an index of the state of the public health this week, amongst those who mention influenza specialities being Mr. A. W. Shirley (menthol) and Messrs. G. & G. Stern (pumiline products).

MESSRS. RAINES, CLARK & CO., of Edinburgh, have just issued a very complete catalogue of patent medicines and proprietary articles, copies of which they offer to forward on application.

EVERY young pharmacist should consider it a part of his duty to study human nature. Some are born with the faculty well grounded in their make-up, but phrenologists and physiognomists teach us that the faculty can be greatly developed by practice and study. It is not our intention to advise druggists to waste time over the fallacies of phrenology, but to study human nature from the general make-up of the person, without regard to the charts of the "bump-feeler." Many unconsciously do this, but more should purposely follow such a course.—*Western Druggist*.

THE INFLUENZA EPIDEMIC.

THE newspaper literature in reference to the invasion is colossal, but not much new comes forth day by day. No one can doubt that to these articles in the daily papers almost as much of the epidemic in this country is due as to the poisonous germs. Many of the cases, indeed, might be more correctly described as daily-telegraphia than as influenza. But that the genuine article is here, too, is beyond doubt. The *Telegraph* has interviewed a number of physicians, and a few have given useful advice. One, "whose name, were it given, would carry great weight," says, "On the appearance of the premonitory symptoms the patient should go to bed and do everything in his power to provoke perspiration. The temperature of the room should be maintained at 65 degrees Fahrenheit. The various sudorifics should be taken, including warm drinks, such as soup, beef-tea, warm milk, gruel, and the like. The medicines should consist chiefly of salines. Alcohol in any form should be avoided at the outset. When all pains have disappeared, the skin is acting freely, and the elevation of the temperature has ceased, the introduction of alcohol is advisable, in the shape of warm brandy and water, or even champagne. The sufferer should remain in bed until all fever, pain, and signs of catarrh in the lungs have abated; and he should then return to his ordinary diet, in combination with a good tonic, such as quinine, small quantities of alcohol being also desirable."

Another says: "Directly a person has the symptoms he should find his way to bed. The throat should be treated by poultices and inhalations, the latter with a teaspoonful of ipecacuanha wine in a pint of boiling water, drawing in the steam every four hours. If the ipecacuanha wine cause sickness, recourse should then be had to friar's balsam. Of course, there are other inhalations that might be used, but these are the simplest. As to medicine, take small doses of salicylate of soda, in plain water, or with the infusion of a vegetable bitter, such as calumba, gentian, or quassia. In most instances the result will be that after a few hours the sufferer will perspire and the temperature will be reduced. At the same time he should take in the morning a good dose of some saline aperient, such as Hunyadi Janos water, or a teaspoonful or more of Epsom salts freely diluted. All the while he should partake of plenty of highly nutritious slops, like well-made beef-tea, chicken or mutton broth, foods made with milk, and tea and dry toast, whilst a small quantity of alcohol in warm water might be consumed—say, two tablespoonsful in twenty-four hours of either brandy, whisky, or gin. Assuming the temperature to have become normal, the patient should be put on very generous dietary, such as chicken and fish, and two or three glasses of wine or stout for the first day, still keeping in bed. On the next day he might get out of bed, taking quinine and resuming the ordinary dietary, though of a more generous character than usual for a little while. He further says: "The danger is to those who say, 'Oh, we will fight it out,' as they stand a chance of causing grave results by inflammation of the lungs, or otherwise. In exceptional cases of persistently high temperature it might be wise to take one or two doses of antipyrine; but, as a rule, salicylate of soda is all that is necessary, followed by quinine as a tonic. For preventive treatment those who go about should increase, not the quantity of their stimulants, but the nutritive character of their dietary. It would be prudent to take four to six grains of quinine per diem, either plain or in pills, divided into two or three doses."

Mr. Labouche informs his friends in *Truth* that he is neither dead nor deaf, as he is assured he ought to be after taking thirty grains of quinine at a dose. He says:—"Quinine agrees with some people and not with others. It seems that it agrees with me. But, as the remedy may, perhaps, be too drastic for all, I asked my medical adviser, Dr. R. R., to let me know what he would recommend in case of an attack;" and this is what Dr. R. R. says:—

1. It comes on with lassitude, aching pains in the muscles, headache more or less frontal, shivering, with a temperature increasing from one to even four degrees above normal. There is a feeling of dryness and heat, followed next day by running from the eyes and nose, sore throat with occasional earache,

and pains in the glands about the lower jaw, and an irritating throat (*i.e.* laryngeal) cough.

2. The great point in treatment is to go *at once* to bed for a day or two, to avoid chills, and to conserve the strength, and avoid the chances of relapse, such as inflammation of the lungs. Take a light but a highly-nutritious diet, followed as soon as possible by a more generous dietary. For medicine, mild saline aperients and febrifuge draughts; doses of antipyrin if the temperature runs very high. For tonic, quinine, or quinine and ammonia. Locally inhalation and poultices if in pain.

3. This disease is very infectious, tends to lower the vitality (hence the necessity of early precaution), and may be followed by other diseases, especially pneumonia.

A *Pall Mall Gazette* young lady visited several leading physicians on Tuesday, and secured prescriptions from them in anticipation of getting the complaint. She told Sir Oscar Clayton she had a sister suffering from it, and felt like getting it. The eminent gentleman wrote for her the following prescription, assuring her, in answer to a question, that it would do for anybody who has influenza:—

Am. serquicarb.	..	..	..	..	3j.
Potass. bicarb.	..	..	..	..	5j.
Tinct. aurantii	..	..	..	..	3iv.
Aque pure ad	..	..	..	..	3viij.
„ flor. aurant.	..	..	..	..	5iij.

"You will take this three times a day," said Sir Oscar, in a tablespoonful of lemon juice. If I were you I should eat two oranges a day. Oranges are an excellent thing in influenza. They keep it from the chest. A very good thing indeed. You may have a little fish or chicken; and have two glasses of port-wine a day made into negus. You know what negus is? Yes. Put the spoon in the glass, you know, or else you'll break it. Add a bit of lemon or nutmeg. Take plenty of strengthening food—sago or tapioca pudding. Put your feet in warm water every night, with a teaspoonful of mustard."

Sir Morell Mackenzie advised his patient to go home and get to bed if she felt bad, and he gave her the following prescription:—

I.					
Potass. nit.	..	..	..	..	3i.
Sp. ether. nit.	..	..	..	..	5iv.
Liquor ammon. acet.	..	..	..	..	3iss.
Aque ad	..	..	..	..	3vi.

II.
Tr. quine. One teaspoonful in a wine-glass of water, twice daily, before meals.

"You will," said the famous specialist, "take this for four days. No. 2 is a little tonic to take when you get better. No doubt if you are a victim you'll feel a little weak for some time."

"Yes; and about diet?"

"Well, plenty of beef-tea and some milk, and there can be no objection to a little fruit."

Dr. Robson Roose told her he was attending sixty patients at present—from Cabinet Ministers downwards. Recommending her not to alarm herself, Dr. Roose wrote the following for a mixture to ward off the disease:—

Quine disulph.	..	..	..	..	grs. xij.
Pot. bromid.	..	..	..	..	5iss.
Acid. hydrobromic. dil.	..	..	..	..	5iss.
Tr. aurant.	..	..	..	..	5ss.
Aque ad	..	..	..	..	5viij.

The eighth part (two tablespoonfuls) twice a day.

And Dr. Roose sat down to reply to a note which had just arrived from Lord Randolph Churchill. Is he also among the victims?

THE BOLO FLOWER, discovered by Dr. Schadenberg growing upon a volcanic mountain in one of the Philippine Islands, is perhaps the largest flower in existence, being "as large as a carriage-wheel," or, to be more precise, about 3 feet in diameter and 22 lbs. weight. The proper name of the plant is *Rafflesia Schadenbergia*. The flower has five oval and creamy-white petals, which grow around a centre filled with countless long violet-hued stamens.

BRITISH AND FOREIGN CONSULS' REPORTS.

THE CAPE COLONY.

South African Trade Booming. The statistical returns show that the trade of the Cape Colony has increased considerably in the year 1888. The prosperity of the Cape Colony and Natal has been greatly stimulated by the opening up of the Transvaal goldfields, with its accompanying large influx of foreign population. Kimberley, with its diamond mines, saved Cape Town; and the Transvaal, with its gold mines, will save the colony. The rapid advancement of South Africa in wealth and commercial prosperity, and in the development of various manufacturing industries, hinges entirely on the prosperity of the mines of the Transvaal. Any hindrance or check to them would react most fatally on colonial prosperity.

The declared value of pharmaceutical goods imported into Cape Colony increased from 59,595*l.* in 1887, to 76,764*l.* in 1888; oilman's stores from 140,988*l.* to 162,110*l.*; paints from 18,312*l.* to 20,494*l.* The exports of aloes grew from 152,367 lbs. to 657,785 lbs.

CHINA.

Cassia Lignea. The principal cassia growing district in China is Loting, in the province of Kwang-tong, and a good deal is also produced in the province of Kwang-si. About 80,000 piculs of cassia are exported yearly from Canton and Pakhoi. Until 1887 the trade was a fairly prosperous one, but since then the profits have fallen off, so far as the two centres named are concerned, because the junks carry the cassia at a very low rate from the growing districts directly to Hong Kong, and trans-ship it there in the European steamers, whereby the spice is less liable to deterioration than when it is handled more frequently.

Cantharides. The Chinese flies are gathered in the province of Sze-chuen, the annual crop being from 90 to 150 piculs, about half of which is exported.

Musk. The exports of musk from Shanghai during the last two years have been as follows:—

To London, in 1883,	575 cattie,	in 1837	602 cattie.
„ Marseilles „	908 „	„	770 „
„ New York „	575 „	„	285 „
„ Hamburgh „	110 „	„	71 „
2,163 cattie.		1,728 cattie.	

About 75 per cent. of this was Tonquin. 20 per cent. Yunnan, and 5 per cent. Cabardine musk. Yunnan musk is only brought to market in small quantities nowadays.

Rhubarb. The quality of the rhubarb brought to market in Shanghai has been very unsatisfactory last year, and there can be no doubt that, owing to the great depreciation of the article, the natives are paying less attention every season to the proper curing of the best varieties. The exports have been as follows:—

To London, in 1833,	2,040 piculs,	in 1887,	1,050 piculs.
„ New York „	468 „	„	378 „
„ Germany „	122 „	„	412 „
„ France „	120 „	„	70 „
2,690 piculs.		1,910 piculs.	

Galls. The most noteworthy feature of the trade in nutgalls in 1888 was the increase of the shipments to Germany from 6,300 piculs in 1887 to 13,438 piculs in 1888, and the decrease of the exports to London, which were 12,680 piculs in 1887, and only 9,094 piculs in 1888.

MOROCCO.

The Tea Trade. The Morocco tea trade, which continues entirely with England, showed a general improvement in 1888, the value of tea imported at all the ports amounting to 39,373*l.*, as against 26,555*l.* in 1887. Hysons and young Hysons, of from 7*d.* to 1*s.* 5*d.* the lb., are still in favour; and cheap sugar has enormously stimulated the consumption of this beverage, in which the town Moor is a true connoisseur, but the country people, who are now contracting the habit (no longer prohibited by its cost), are satisfied with a very inferior quality.

Trade Report.

*Notice to Retail Buyers:—*It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purpose.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., January 9.

THE auction sales are now again in full swing, and have generally been very heavy this week. The drug sales were certainly the largest held for several years, and the catalogues were so inconveniently crowded that it must have been a matter of impossibility for most of the buyers to properly inspect all the goods offered for sale. Several catalogues are held over until to-morrow, but of the goods offered to-day by far the largest quantity was bought in, and the auctions generally proceeded with extreme slowness, there being apparently a total want of orders for some classes of goods. Ipecacuanha was slightly dearer, and an advance can also be reported in jalap, certain varieties of vanilla, buchu, cascarilla, and beeswax. Oils of bergamot and lemon have advanced, and menthol is also dearer. Higher prices are asked for colchicum seed and orris root. On the other hand, the following articles have declined in value: Calumha, China galls, ergot of rye, cardamoms, senna, musk, gum myrrh, and castor oil. Quinine is rather dearer, and quicksilver is also better, but cream of tartar seems to be hanging fire again. In drysalteries and heavy chemicals nearly all the alterations are of an upward character, and we have to record advances of more or less consequence in block gambier, shellac, quillaya, soda bicarbonate, crystals and caustic, bleaching-powder, chlorate of potash, linseed oil, olive oil, cloves, and white Penang pepper.

THE BROKERAGE ON QUININE.—A few days ago Messrs. Lewis & Peat invited some of the leading brokers in quinine to meet at their office to discuss the question of a uniform contract form for the sale of quinine. At present there is considerable divergence in the wording of the contract forms for this article, and it was thought desirable in some quarters to endeavour to agree upon a fixed form to be adopted by all brokers. But when the meeting actually took place it is said that the question of the wording of the contract dropped entirely into the background, and that the only matter discussed to any extent was that of brokerage on quinine. The usual remuneration of the broker for contracts on this article, as on most drugs and chemicals, is 1 per cent. from one principal and $\frac{1}{2}$ per cent. from the other, but not a few of the brokers have lately contented themselves with $\frac{1}{2}$ per cent. from each of the two parties. Those who do so say that transactions in quinine do not demand the same trouble as those in other drugs, and that the article, though now one of considerable speculative interest, has been such an unprofitable one to dealers generally that to charge the full brokerage would have the effect of restricting operations. At the meeting this view was expressed by several of those present, and more than one broker refused absolutely to bind himself in any way to adhere to the orthodox 1 per cent. charge. If we are not mistaken, a similar trouble was experienced last autumn in the sale of East Indian gum arabics, but in that case all the brokers ultimately agreed to revert to the 1 per cent. brokerage, and entered into an agreement to that effect, which came into force with the beginning of this year. The quinine meeting, however, broke up without having led to any result whatever.

MUSK AT THE SALES.—Some discussion arose to-day at the drug sales with regard to the weighing of Tonquin musk. This article has hitherto been weighed and charged by the ounce, with the result that occasionally there has been a slight advantage in buying a caddy, especially at the end of a pile. For a long time, however, one at least of the

principal importers has been in the habit of selling privately by weight adjusted to the quarter ounce, and to-day, for the first time, the same condition was printed in one of the catalogues. When the list so printed was reached Mr. Blum (Auguste Faber & Co.) protested against the innovation having been adopted without the previous consent of the trade, and he was backed up in his protest by Mr. F. H. Lescher. Mr. Figgis answered that his principals were powerless; in the matter, inasmuch as other brokers, some of whom he saw present in the room, were responsible for the alteration, and had already sold in the manner indicated for a long time, their sales being probably even larger than the sales effected in the public auction-room under the old terms. After some further discussion the sale proceeded, some of the druggists declaring that they should refuse to bid for lots catalogued in the new style.

THE TYNE CHEMICAL TRADE.—The principal item of news in connection with the Tyne chemical trade is the intended closing by the Jarrow Chemical Company (Lim.) of their large alkali-works at Tyne Dock, South Shields. The directors announced this decision to their employes at the close of last week, giving as their reason that the manufacture of alkali cannot be carried on profitably now that the Bleaching Powder Association is dissolved unless by the adoption of special plant, which they do not feel justified in erecting at their Jarrow works. These works, therefore, will be shut up gradually, as soon as the contracts now running permit. But the Friar's Goose Chemical Works at Gateshead, also the property of the company, will continue working, and large sums have been sunk there in the erection of plant for the recovery of sulphur from soda waste by Chance's process. The Jarrow works occupy one of the finest sites in the North of England: they adjoin the Tyne Dock quays, and the goods handled there are exempt from dock dues. The works were established in 1823 by Messrs. Cookson, who carried on the manufacture of alkali there until 1843. The works were then idle for some time, but they were subsequently reopened by Messrs. Jas. Stevenson, of Glasgow, Wm. Stevenson, of London, J. C. Williamson, of Hull, and Chas. Tennant & Co., of Glasgow, whose amalgamated interests are represented by the present company. In the early "sixties" there were about twenty-five alkali-works on the Tyne. There are only seven or eight left now, though those that are working are exceptionally large factories. An arrangement has, we believe, been arrived at among the manufacturers of soda crystals to reduce the output; the prices have advanced in consequence.

ACIDS.—*Citric* remains quiet at 1s. 3 $\frac{3}{4}$ d. nearest price. *Tartaric* has been in slightly better request, but the prices are still unchanged: Lawes' brand, 1s. 3 $\frac{3}{4}$ d.; other brands from 1s. 3d. to 1s. 3 $\frac{3}{4}$ d. *Oxalic*, dull at 3d. per lb.

ACONITE ROOT.—Fifteen bales of Japanese root were offered to-day, but bought in without any mention of price.

ALBUMEN.—This article has recently been more frequent at the drug auctions than it used to be, and to-day a bid was solicited for 12 cases of good egg albumen, while another lot of 5 cases blood albumen was bought in without finding anyone to bid for it.

ALOES.—From the *Cape* there have been no further supplies, and were it not for the uncertainty as to the supply in second hand, and the abundance of capey Curaçao aloes, we would probably have seen much higher prices for this variety already. To-day only 27 cases, all secondhand stock, were offered, but only five of them sold, after some hard bargaining at 27s. 6d. per cwt. for good hard bright. Of *Curaçao* aloes the supply keeps very large, though the average quality is very low, and the arrivals are still heavy. At to-day's auctions several parcels sold, good bright but soft capey at 20s. to 24s., ordinary to low black at 14s. down to 10s., fair softish red liver at 32s. per cwt. Several parcels of *East Indian* aloes sold; *Zanzibar hepatic* in skins, fair red partly soft at 97s. 6d. to 120s. per cwt., rather high prices; dull ditto 72s. 6d., soft sour flavoured in tins from 40s. to 60s., ordinary black in kegs at 20s. to 24s. per cwt.

AMBERGRIS.—The market was put to the test to-day by the sale of a small lot of 4 $\frac{1}{2}$ oz. fine grey ambergris of good

flavour. This lot was well competed for and brought 162s. 6d. per oz., which was generally considered a very satisfactory price, although it is reported that higher rates had already been paid privately. Five ounces of good flavour, but rather chalky and white ambergris sold at 70s. and 8 oz. very black and undeveloped at 30s. per oz.

AMMONIA SALTS.—*Carbonate* unchanged. *Salammoniac*, still firm at 36s. for first and 34s. for second quality. *Sulphate*, Beckton, 12l. 2s. 6d.; London, 12l. 3s. 9d.; Hull and Leith, 12l. 1s. 3d. to 12l. 2s. 6d.

ANNATTO SEED.—19 bags fine bright to rather damp seed from Ceylon sold to-day at 2 $\frac{1}{2}$ d. per lb. and for 20 baskets dark brown *Pará roll* 9d. per lb. is suggested as the price.

ANISE.—Several parcels were offered to-day and sold rather cheaply, at 25s. per cwt. for fair grey *Spanish*, and 15s. 6d. for ordinary *Russian* seed. A parcel of *Malta* seed was bought in at 27s. per cwt. Mail reports from Hong-Kong state that the stock of *Star-anise* on that market, amounting to about 100 piculs, was cleared early in December at the rate of \$30, and that there was still a good demand.

ANTIMONY remains very scarce and dear. *Regulus*, 77s. 6d. to 80s. *Crude Japanese*, quite nominal at 52s., with none one offer.

ARSENIC.—Best white powder maintains its price at 13s. 3d. to 13s. 6d. per cwt.

BAEL FRUIT quite neglected. Five bags fair pulp were shown to-day, but not even a bid of a penny was obtainable.

BALSAMS.—*Peruvian balsam* firmly held at prices more or less nominal; of *Copaiba*, 5 casks good bright Maranhão were shown to-day, and the owner wants 2s. 9d. per lb.; *Wood oil*, 100 drums found no buyers at 4 $\frac{1}{4}$ d.

BENZOL.—Firm and in a very strong position, 3s. 6d. for 90-per-cent. and 2s. 8d. for 50-per-cent. are the lowest prices.

BLEACHING POWDER has advanced considerably on the Tyne, and the quotation there now ranges from 5l. 5s. to 5l. 10s., according to brand.

BORAX.—Very firmly held at 28s. 6d. to 28s. 9d., from the second-hand. Makers' quotations unchanged.

BROMINE AND BROMIDE OF POTASSIUM.—Steady and unchanged.

BUCHU.—One bale sold at an advance of $\frac{1}{4}$ d. per lb. to-day, viz., 3 $\frac{1}{2}$ d. for good green round leaves.

CALABAR BEANS.—A small lot of 25 lbs. of slightly mouldy seeds sold at 7d. per lb.

CALUMBA.—Several parcels were forced off to-day at lower prices. Good yellow mixed root, almost sound, fair sizes, 10s.; ditto, damaged, 6s. 6d.; small to medium sound yellow mixed root, at 13s. to 14s. 6d.; rather dark mixed and wormy, at 9s. 6d. to 10s. per cwt.

CAMPHOR.—*Refined* still very firm, at 1s. 10d. per lb. for English bells, but we do not hear of any business. *Crude*: These is nothing offering on the spot, and quotation for arrivals is nominal at 130s. to 132s. 6d., "c.i.f." terms. The Chinese New Year, which occurs shortly, may temporarily cause the trade in Chinese articles to stop.

CARDAMOMS.—A rather heavy quantity was catalogued for sale to-day, but part of it will not be reached until tomorrow. There seemed to be very few orders about, however, though it should be added that the bulk of the cardamoms offered to-day were of the less saleable varieties. For the parcels sold a general decline of from 4d. to 5d. per lb. was established, some parcels changing hands at remarkably low rates. For a heavy parcel of rather unsightly and small brown *Mangalore*, C C over C in triangle mark, no bid was made even at 1s. 6d. per lb. *Mysore* sold at 1s. 4d. for long medium to bold brownish and specky, 1s. 3d. for medium lean long, 1s. 1d. for small to medium yellow, and for medium round brown mixed. *Malabar*, small to medium brown round warty, 1s. 3d.; partly split specky and brown, 1s.; pale starchy and light, 10 $\frac{1}{2}$ d. per lb. *Seeds* brought very high prices, one lot selling at 1s. 8d. per lb. The following figures refer to the exports from Ceylon during the periods between

October 1 and December 12: 1889, 72,097 lbs.; 1888, 35,386 lbs.; 1887, 76,777 lbs.; 1886, 39,153 lbs.

CASCARA SAGRADA.—The nearest quotation from America is 60s. c.i.f. terms. At the auction to-day 11 bales good, but rather dark, mixed quilly bark were shown and bought in at 9d. per lb.

CASCARILLA.—There has been a scarcity of this article lately, and the recent arrivals which were brought forward to-day sold readily with excellent competition at very high prices; good broken silvery quill, 42s.; small ditto, 36s.; thin grey to brown, 26s. 6d. to 28s.; damages at 23s. to 25s.

CASTORUM.—Some further arrivals are said to have taken place, but we have not been able to trace particulars.

CHIRETTA.—Forty bales, fairly good herb, held at 3d. per lb., an offer of 2½d. being refused.

CINCHONA.—A large supply of South American barks, partly of somewhat old import, were catalogued for sale, but the demand was very slack for all but a few varieties. Several packages of dull coloured red bark in weak quill, partly broken, sold at the excessive prices of from 3s. 6d. to 5s. 6d. per lb. *Guayaquil-Loxa*, in fine grey silvery quills, brought 1s. 7d. for sound and 1s. 5d. for damages, rusty quill, 6d. to 8d., very ordinary 3d. per lb. A few packages of good silvery *Loxa* quills, fair flavour, sold cheaply at 1s. 5d. to 1s. 9d. per lb., and *Huanoco* quill at 9d. to 1s. per lb. Our imports of cinchona bark from all quarters since our last report have been 383 packages only. The exports from Ceylon during the period from October 1 to December 12 have been as follows:—1889, 1,684,069 lbs.; 1888, 3,023,319 lbs.; 1887, 1,803,726 lbs.; 1886, 2,954,055 lbs. Up to the present time, 2,670 packages of bark have been declared for sale next Tuesday, of which 1,920 are of Eastern and 750 of American growth. The Amsterdam cinchona statistics quoted in our last issue (which were abstracted from a table compiled by Mr. H. A. Van Overzee, jun., of that city) refer to the year 1889, not 1888 as printed erroneously.

CIVET.—5 horns bought in at 8s. per oz. to-day.

COLCHICUM SEED.—This small article, for which a sudden strong demand set in some time ago, has again gone higher quite recently, and fancy prices are now asked for the very small quantity offering.

COLOCYNTH.—Several lots were offered to-day, but there is no demand nor any change in price; peeled *Turkey* apples, small to bold mixed, and somewhat seedy, are held at 1s. 6d. to 1s. 9d. per lb.; dark and shrivelled *Spanish* bought in at 1s. 2d. per lb. One small lot of *Turkey* pulp and seed mixed sold at 1s. 3d. per lb.

COPPER (SULPHATE).—Business reported on the spot at 23l. to 23l. 5s. April-June delivery quotes at 22l. 10s.

COWHAGE.—Three tins only were shown to-day. The prices are from 6d. to 7d. per oz. for stony mixed.

CREAM OF TARTAR.—Dull of sale at 108s. to 109s. for best French white crystals.

CROTON SEED.—Several lots have arrived recently, and some fairly good seed was shown to-day, but it was not seriously offered, and there was no apparent demand for it.

CUBEBS.—15 bags from Amsterdam, good genuine berries, slightly mixed with pale berries, are held for 26l. per cwt.; for a spurious and stalky mixed lot, 22l. 10s. was named as the price.

CUMIN SEED.—Fair to good *Malta* is held at 25s. to 29s. per cwt.; *East Indian* put in at 25s.

CUTCH.—A strong business is reported, mostly at private quotations; *Star B.* near at hand has been sold at 29s. per cwt., and R.S. in block at 26s. 6d.

DRAGON'S BLOOD.—Fine fiery dragon's blood in reed remains scarce and would bring good prices. At to-day's auctions 3 cases, very drossy and dull finger in reed, were bought in at 5l. 10s. per cwt. nominally. Of *Socotrine* dragon's blood 14 cases were offered; good loose drop was bought in at 82s. per cwt., and one bag of fair small siftings sold at 47s. per cwt.

ELATERIUM.—One box rather dark *Malta* cakes sold at 2s. 6d. per oz.

ERGOT OF RYE.—The demand seems to have fallen off, as we do not hear of much business passing privately. A few packages of wormy *Spanish* ergot sold to-day at 1s. 1½d. to 1s. 4½d. per lb., and for another lot of lean ergot 1s. 3½d. per lb. was accepted. There is plenty offering.

GALLS.—Nearly 900 bags of *Turkey* galls were included in to-day's auctions, but the whole of this supply was bought in. The prices named for good qualities range from 60s. to 62s. 6d. for blue, 52s. 6d. to 55s. for green, and 45s. to 47s. 6d. for white. In *China* galls we hear of some business at 64s. per cwt. "c.i.f." terms, for usual shape, which marks a decline of 1s. 6d., and at 61s. "c.i.f." to Continental ports, for plums.

GAMBIER dearer, and for *block*, December-January, from 27s. 1½d. to 27s. 3d. has been paid, with buyers at the latter price.

GAMBOGE.—For fine picked pipe, 13s. per cwt. is still asked. An offer of 10l. 10s. was refused for a lot of good, bright-coloured run pipe, almost dry, but 10l. 15s. would be taken for it, which would be cheap. Damp and caky pipe, rather dull fracture sold at 9l. 17s. 6d. to 9l. 15s.; some pickings at 9l. 7s. 6d.

GENTIAN ROOT.—Several lots sold at 15s. 6d. for good quality; another parcel is held at 16s.

GUARANA.—Two cases were offered to-day, and for these the owners would still take 5s. per lb. From New York we hear, in corroboration of the paragraph in our correspondent's last letter, that almost all the available stock of guarana has been bought up by a few houses who ask their own price for it. It is also said that the demand for guarana in Brazil itself has increased so largely that it does not pay the native dealers to export it any longer.

GUINEA GRAINS.—Twenty-three bags sold at Liverpool a few days ago at 34s. per cwt.

GUM AMMONIACUM.—Only one case was offered, containing 1 cwt. of bold pale blocky almonds of very slight flavour; it sold without reserve at 43s. per cwt.

GUM ARABIC.—Several parcels of good *Turkey* gums were offered to-day, and some sold at rather lower rates. For one lot of fine small picked *Turkey* gum 26l. is asked, and 15l. 10s. for small grey grains. Two cases of small genuine picked *Turkey* gum sold at 13l. 15s., or about 2l. below the last quotation. Of *Cape* gum a few packages sold, good clean pale glassy drop, at 5l. 12s. 6d.; dark drop, at 40s.; coarse glassy siftings, at 37s. per cwt. A parcel of good white sifted *Mogadore* gum was bought in at 7l. 15s. per cwt. A very large consignment of gum arabic from the Niger district has arrived in Liverpool during the last few days. It consists of 2,500 packages, and is said to contain a very large variety of gums, mostly of inferior or very common quality, but several very useful lots.

GUM BENJAMIN was in excessive supply to-day, all varieties, and parcels were bought in wholesale, the demand being exceedingly slight. *Siam.*—15 cases small loose brown almonds, and best from wood mixed, bought in at 7l. 10s.; for *Sumatra* good white almondy seconds, good flavour, an offer of 8l. 7s. 6d. was refused. Another lot of grey seconds, not very almondy, partly false packed, was bought in at 5l. 12s. 6d.; *Palembang* in good supply; good almondy bright sold at 51s. to 52s., and fine pale almondy at 55s.

GUM ELEMI.—Only 5 cases were offered, partly very dirty mixed and of weak flavour, which brought the excessively high price of 38s. per cwt.

GUM GALBANUM.—Three 1½-cwt. barrels of the bright-coloured bdellium gum from Aden (*Bissabol*) were shown to-day. The owner now asks 1s. 3d. per lb.

GUM KINO.—One cask of liquid kino from the West Coast of Africa was shown and bought in at 50s. per cwt. There was some discussion as to whether similar kino had ever before been shown here, and one of the druggists asserted that 25 years ago he bought several packages of the same brand as that offered to-day. We believe that a few years ago a large quantity of kino was sold by one of the wharves to defray the charges, and that this kino had been stored there for 20 years or more.

GUM MASTIC.—The price for rather dull to yellow grain is 2s. 4d. to 2s. 6d. per lb.

GUM MYRRH sold cheaper at 92s. 6d. per cwt. for roughly picked bold pale Aden; good siftings at 70s.; ditto dust at 55s.; and good bright picked at 6l.

HONEY.—Of *Chilian* honey a few kegs sold at 43s. for good hard fairly white; *Jamaica* good thick, 42s.; darker, 40s.; and brown mixed, 37s. per cwt.

INDIGO.—Mail reports from Calcutta state that the proportion of middling, defective, and ordinary descriptions of Bengal and Tirhoot is very large this season, and the prices for these grades have declined considerably, though they show some improvement at the close of the report. Indigo of good colour, paste, and shape is in steady demand for the Continent, and Oudes are rather dearer.

IODINE.—There is no news about the syndicate, and, in the absence of any information on this subject, there is no quotable price for either iodine or iodides.

IPECACUANHA.—58 serons were offered to-day, and of these 26 serons sold at an advance of 3d. to 4d. per lb. as compared with the last auction rates, but only 1d. or 2d. dearer than has been paid privately in the course of the week. Good sound root brought from 7s. to 7s. 3d. per lb.; first-class damaged 6s. 11d. to 7s. 2d.; and second-class damaged, black and mouldy, 6s. 10d. per lb.

JALAP.—Only nine bales were shown to-day, but the owner would not take less than 10d. per lb., although the drug is mostly very small in size.

MERCURIALS.—Steady at the lowest named prices; 3s. 7d. for *calomel*; 3s. 10d. for red, and 3s. 9d. for white *precipitate*; 2s. 11d. for *corrosive sublimate*; 2s. for *mercurial ointment* and *blue pill*; English *vermillion* 3s. 1d. per lb.

MUSK was in very large supply to-day, and prices were distinctly lower. There was no serious demand whatever. Only one tin *Tonquin* pods, first pile, medium to bold, old-fashioned, well trimmed, and dry, sold at 80s. per oz. Early this week we hear that 90s. was paid privately for a lot of fine thin blue-skin musk. Third pile, medium to bold, old-fashioned, dry, well trimmed, is held at 45s. per oz., 42s. being refused; unsightly and skinny sold at 45s.; *Russian cabardine*, of good appearance, bought in at 24s., and damp *Chinese cabardine*, 23s. per oz.

OIL (CASTOR).—The market has become very flat, and the tendency is unmistakably easier. In Liverpool good Calcutta seconds are quite nominal at 4d. per lb.

OILS (ESSENTIAL).—There are not many new features in this department. From Italy a strong rise in oils of *bergamot* and *lemon* is reported, the former being quoted in some quarters as high as 9s. 6d. to 9s. 9d. per lb. f.o.b. for the best brands. Oil of *lemon*: Palermo, 4s. 3d., and Messina, 3s. 9d. per lb. f.o.b. Spanish *geranium* oil was bought in to-day at 2s. 6d. per oz. In *cassia* oil some business is reported at 3s. 6d. "c.i.f." terms, but to-day two cases sold, without reserve, at the same price in sale. A parcel of Fisher's *patchouly* oil is priced at 1s. 4½d. per oz. *Cajuput*, 4s. per bottle. *Star-anise* is said to have sold privately at 6s. 1½d. per lb., which would mark a decline; at auction 6s. 2d. was the price for an unworked lot. The advance in *menthol* has made further progress, and to-day 10s. per lb. is reported as the price, but we do not think there has been any business even within a shilling of that quotation. With regard to the shipments of *Star-anise* oil from Tonquinese ports, parcels were received thence several years ago, but they were objected to on account of unusual packing. A large firm in Tonquin recently made offers of the oil here, but we understand that they were unsuccessful in placing any.

OIL (OLIVE).—The London market is exceedingly firm, and prices are tending higher for all varieties. In Liverpool the stock of olive oil is small, and holders are asking more money owing to the advanced quotations for shipment from the producing countries. From Leghorn a rising market is reported, and prices are said to be advancing all over the interior of Italy.

OIL (PALM).—From Liverpool a moderate business is reported at full prices to an advance of 5s.; for *Benin* oil 21l. 5s. has been paid, and for *Lagos* 23l. 5s. In London 25l. 10s. is asked for fine *Lagos* oil.

OILS (VARIOUS).—*Cocoanut* oil firmly held; Ceylon, in pipes, 23s. 9d. to 24s.; Mauritius, 24s. to 24s. 6d.; *Cochia*, 26s. 6d. per cwt. *Cottonseed* oil is quiet at 20s. for crude, and 22s. to 23s. for refined; Liverpool refined, 22s. 3d. to 22s. 9d.; Hull, 20s. 1½d., naked. *Linseed* oil rising, spot, 20s. 7½d. to 21s.; Liverpool quotes 22s. to 22s. 6d. for export casks. *Petroleum* unchanged; American at 6½d. to 6¼d., Russian at 5½d. to 5¾d. per lb. *Rapeseed* very quiet; brown spot, 31s. 6d.; refined, 33s. Of refined *Stettin* oil, very little is obtainable, and the price stands at 35s. 6d. per cwt. *Turpentine*, quiet at 34s. per cwt. for American spirits on the spot.

ORANGE-PEEL.—Several lots were shown, and for 5 bales very fine pale Seville oranges 2s. per lb. was suggested.

ORRIS ROOT.—Prices are again reported higher in Italy, and the first-hand holders are very nearly sold out. For fine selected *Florentine* root in casks 60s. per cwt. f.o.b. Leghorn asked, and 50s. per cwt. for ordinary quality. *Veronese* root from 26s. to 32s. 6d. per cwt. f.o.b.

PEREIRA BRAVA.—Four bales were shown to-day, and two sold at 90s. per cwt., the other lot being priced at 5l. 10s.

PATCHOULY.—Fifteen bales of very thin leaves, probably not genuine, sold to-day without reserve at 3d. to 3½d. per lb.

PHOSPHORUS.—The quotations have been reduced to 1s. 10d. for wedges, 1s. 9d. for sticks, and 2s. 9d. per lb. for amorphous.

POTASH SALTS.—*Potashes* and *Pearlashes* both dull of sale at 29s. 9d. to 30s. 9d. respectively; *Bichromate* fairly steady at 4d. per lb.; *Chlorate* on the spot now rules at 4½d., but there is very little to be had; January-June delivery also scarce at 4½d.; *Prussiate* of potash very steady, and the prices nominal at 9½d. for both English and foreign yellow.

QUICKSILVER.—A decidedly firmer tone has prevailed. The principal importers still maintain their price at 9l. 15s., but yesterday there were no second-hand sellers under 9l. 9s. 6d.; to-day they would take 9l. 9s.

QUILLAYA BARK.—Prices in Liverpool have advanced to 17l. per ton for the best quality, 16l. 15s. having actually been paid.

QUININE is fully ½d. dearer on the spot, and ¼d. for forward delivery. There has been a steady demand this week, and about 115,000 oz. are reported sold, mostly in second-hand, at full prices; *B* and *S*, and *Brunswick* in bulk, at from 1s. 2½d. to 1s. 2¼d. on the spot; *Whiffen's*, at 1s. 3d. on the spot; *German* bulk for February, at 1s. 2¼d.; February-March, 1s. 3d.; and April, at 1s. 3½d. *Howard's* prices maintained at 1s. 7d. for vials, 1s. 6d. for bulk.

RHUBARB.—A large quantity was offered to-day, but only a few lots sold at low rates, though not notably cheaper. *Skensi*, fairly good bright fractured, but dull coat 1s. 4d., low wormy 6d. to 7d., ditto. *Canton* 5d. to 5½d., and good bright-pinky *High Dried* at 11d. per lb.

SARSAPARILLA.—There was not much inquiry to-day; 10 serons rather rough *Honduras* sold at 1s. 3d. per lb., and fair *Lima-Jamaica* 1s. 2d. to 1s. 3d.; damages at 1s. to 1s. 2d.

SENNA.—The bulk of the quantity catalogued will not be reached until to-morrow. About 120 bales of *Tinnevely* were sold to-day at slightly easier prices; medium to fair green, slightly specky leaf, 4½d. to 5½d.; small greenish mixed 2½d. to 3d.; common dull and yellow 1½d. to 2d.; about 100 packages of *Alexandrian* nearly all bought in; good pale-leaf being held at 1s. 7d., small leaf at 9d. to 10d., broken at 7d. per lb.; for 9 bales of pods, which are now becoming very scarce, owing to the increase in the demand, the very high price of 1s. 4d. was asked; a parcel of 27 bales common thick, pale, and very stalky *Mecca* leaves were bought in at 2d. per lb.

SODA SALTS.—*Bicarbonate* must be called scarce at 5s. 9d.; *Ash* has been in active request, and for prompt delivery there is very little offering; *Tyne*, 1½d., less 5 per cent.; *London*, 1½d.; *Crystals* are much dearer since our last report, and are offering sparingly at 52s. 6d. to 55s. ex ship London, while on the Tyne 47s. 6d. is being paid; *Nitrate*, dull, at 8s. 4½d. to 8s. 6d. for agricultural, and 9s.

for chemical qualities; *Caustic*, scarce and dear, with very few sellers.

SHELLAC.—A good demand has prevailed throughout the week, though prices for delivery are rather lower at the close, but still show a slight improvement upon those quoted in our last report. At the first weekly auctions of the year, on Tuesday, the catalogues consisted of

	Cases	Cases
Orange lac	332 of which	247 were sold
Garnet „	300 „	303 „
Button „	180 „	63 „
	812	610

This quantity was a very moderate one, considering that no auctions had been held for three weeks, and the demand was very good indeed, orange lac selling at about 1s. advance, and garnet being 2s. 6d. to 3s. dearer. The price of button lac was also much higher. Ordinary to fair red second orange sold at 75s. to 78s.; good bright unworked, at 81s.; very blocky unworked garnet, at 68s. to 69s.; good first button, at 95s. to 96s.; seconds, at 91s. to 93s. per cwt. To-day, 500 cases TN orange sold at 79s. for April delivery, and 100 cases garnet AC at 72s. 6d. for February.

SPICES.—The first auctions of this year were held on Wednesday, and very heavy quantities were offered; *Arrowroot* sold at 2d. to 2½d. for medium to good white St. Vincent. *Cloves* have been in steady demand privately, with sales of Zanzibar April-May shipment at 5½d., landed terms; at auction about 1,000 bales were offered, and large quantities sold at firmer prices, from 4½d. to 5½d. for common dark to fair, 5½d. to 6½d. for good to firm; Java sold at 8½d. for good, to 12½d. for very fine bright; *Chillies*, steady. Fair, stalky Zanzibar, 29s. 6d. to 30s.; *Mace*, quiet and dull of sale; *Ginger*, without alteration; *Cochin*, common dull, rough and wormy, 17s. 6d. to 20s.; native cut, ordinary to fine-picked, 21s. 6d. to 41s.; *Nutmegs*, slightly lower for all qualities; *Black pepper*, very dull of sale, and without transactions on the spot; *White pepper*, quiet but firm, and rather dearer for Penang; good white at 8½d.; *Pimento* steady at 2½d. to 3½d. for ordinary to good. The total stocks of nutmegs in the chief centres of trade on December 31, 1889, as compared with the two preceding years, is given as follows (in kilos.) :—

	1889	1888	1887
New York	124,500	169,650	204,150
London	129,410	193,713	251,940
Holland (warrants and first-hand)	185,320	141,100	243,803
	439,210	504,463	704,890

It is stated that before long the discrepancy will become still more pronounced, as the offers from the Straits Settlements and the Dutch East Indies are exceedingly limited.

TEA.—The trade in the country has not yet thoroughly woken up, stock-taking still occupying a good deal of attention. All lower grades keep very firm, 4½d. being the lowest quotation for leaf tea, Moning or Kaisow, and there are no longer the bargains to be picked up between 5d. and 6d. in Ningchow that were to be had a month or two ago. Pan-yongs under 10d. are also fully ½d. per lb. dearer, but finer grades of Congou are very slow of sale, and, excepting for a few shipping inquiries, there is practically no quotation over 1s. for Congous, the demand for home trade being infinitesimal. It really seems as if in a year or two Congou will only be used in blending to reduce the price of Assams and Ceylons for the lower canisters, instead of being the backbone of a grocer's 2s., 2s. 6d., and 3s. blends. How are the mighty fallen! New makes are in smaller supply, and firm. Scented teas are also steady, but green teas, with heavy sales, are easy. Assams keep very firm, poor liquoring broken fetches 7d. and similar Pekoe Souchong 7½d.; but Pekoes over 10d. are unchanged from last week, and are as good stock as anything to be bought in Assams. Some good liquoring broken Pekoes may be bought between 10d. and 1s. 2d., and are worth attention, while anything with a very "stand out" liquor in leaf or broken commands a good price. Ceylons keep very firm, scarcely any leaf tea selling under 10d., but good useful tea for a 2s. canister may be bought from 11½d. to 1s. 1d.

VANILLA.—A large quantity was offered to-day, and met an irregular demand, most lots being rather lower, and in some cases from 1s. to 1s. 6d. per lb. cheaper; fair chocolate, 5½ to 8½, sold at 14s. to 21s. 6d.; 4 to 7, brown, at 12s. to 14s.; good chocolate, 7 to 8½, at 19s. 6d. to 21s.; ordinary damp and red, down to 2s. 9d. per lb.

WAX (BEES).—Strongly competed for and selling at very high prices; fair yellow at 5l. 15s.; brown mixed at 5l. 12s. 6d.; *South African*, fair colour 95s.; and ditto *Madagascar*, 92s. 6d.

THE DUTCH MARKET.

AMSTERDAM, January 8.

CINCHONA BARK.—The sales in Amsterdam on Jan. 16 will consist of 3,605 bales and 354 cases, or about 312 tons. *Java bark* from Government plantations, 366 bales 45 cases, about 34½ tons; from private plantations, 3,219 bales 309 cases, about 277 tons. *West Indian bark*, 20 bales, about 15 cwt. There are of *Druggists' bark*: *Succirubra* quills, 191 cases; broken quills and chips, 293 bales 80 cases; root, 91 bales; *C. Schuhkraft*, quills, 11 cases; broken quills and chips, 27 bales 11 cases; root, 15 bales; *C. Anglica*, broken quills and chips, 4 bales. *Manufacturers' bark*: *Officinalis*, broken quills and chips, 132 bales; root, 28 bales; *Ledgeriana*, broken quills and chips, 2,547 bales; root, 269 cases; *Hybrides*, quills, 61 cases; broken quills and chips, 148 bales; root, 31 bales. *West Indian bark*, chips, 20 bales. Total: 3,605 bales 354 cases. The total weight of the manufacturers' bark is 253 tons. This manufacturers' bark contains about 10 tons sulphate of quinine, or about 4 per cent. on the average, viz.:—16 tons at 1 to 2 per cent.; 51, 2 to 3; 90, 3 to 4; 51, 4 to 5; 26, 5 to 6; 11, 6 to 7; 6, 7 to 8; 1, 8 to 9; 1, 9 to 10.

THE SPANISH SAFFRON CROP.

VALENCIA, December 31, 1889.

AS I indicated in my last report at the commencement of November, the expected movement in the saffron trade has taken place.

Stocks came in steadily, and buyers in the beginning refrained from buying heavily, so as to make prices easier. The quotations then declined, reaching their lowest point at 120f. for good quality and 138f. for superior quality. A chief reason for buyers not purchasing much at the beginning of the season was the rather advantageous offers from France of its Gatinais saffron, which was sold at 120f. for superior quality, but soon the small yield of the Gatinais district, about 3,000 kilos. crop in all, was exhausted, and foreign buyers had to come here for their necessities. These purchasers began buying up all the cheaper parcels first, and left the superior quality almost untouched, which resulted in a very inadequate difference in the prices of the two classes. At the end of two-and-a-half months, or since beginning of the season, 16,500 kilos. were sold, and the prices now stand at 131f. for good quality, but superior saffron is still obtainable at 138f. to 140f. The prospect for the next two months will be in all likelihood that prices will remain at their actual height; for if, on the one side, an upward movement need not be feared, since the principal buyers seem provided for the moment, neither, on the other hand, need a decline be expected, as most of the present stock of saffron in the market has been bought up at the actual prices.

Only a very reserved as well as a very lively demand may influence the prices somewhat until the moment when larger purchases will be made again.

ANTIFEBRIN FOR HORSES.—Mr. W. F. Barrett, M.R.C.V.S., states that he has given 3iss. doses every six hours to horses. This was for influenza. Mr. Barrett says that antifebrin is one of the best remedies for influenza in the horse.



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish: if you do not, please use a distinctive nom-de-plume.

Write on one side of the paper only; and devote a separate piece of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers, please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulae consult the last volume, if you have it.

Letters, queries, &c. will be attended to in the order received.

Reminiscences of Historic Pharmacists.

SIR,—If you care for any more anecdotes of the Fathers of Pharmacy here are two that are both historical and characteristic. I had them from a former "governor" who was for five years with Mr. Peter Squire, and enjoyed a certain amount of his confidence.

During the early days of his engagement with Mr. Squire my future governor came to business one morning half an hour late. As he passed the front counter he asked his senior, "Has the old devil come in yet?" "Yes," said Mr. Squire, popping his head up from behind the dispensing-screen, "the old devil's here."

Mr. Squire occasionally took this young man with him to the meetings of the Pharmaceutical Society, and upon one occasion was asked by him why he had not corrected some erroneous statements regarding certain medicaments made by other members. "My dear fellow," was the reply, "I go there to suck their brains, not to have mine sucked."

I am, &c.,
B. (214/39.)

Shop Till.

SIR,—This subject is of vital importance to the retailer of to-day, from the fact that looking after the cash is to many the difference between success and failure. In your issue of January 4 "Heder" uses the expression, "as good a cheek as we want ordinarily." What can "Heder" mean by "ordinarily"? If an assistant takes a shilling at any time in the day it is of just the same value to the proprietor; and if any moneys are abstracted it does not signify in result by what means the theft is committed. "Heder" should have seen that a cheek-till must meet all the requirements of cheeking, otherwise it is useless.

I certainly favour registering on a paper strip; in fact, I go so far as to say that it is the only principle on which you can place any reliance for the detection of thefts, errors in giving change, and those guilty of committing thefts, &c., the three provinces of a cheek-till. That theft is largely practised in retail shops is admitted by all, but half the employers being robbed to-day do not awake to the fact because there is nothing but trouble and difficulty in detecting such with an open till. This places the registering on paper system in the front rank of cheek-tills, as all employers have to do is to prove the entries. Errors in giving change to customers is a more general failing than theft, as even employers themselves would be astonished at their mistakes if they only had a cheek-till to point them out. These are the main advantages of the registering system, and if "Heder" can show me that they are not of vital importance I shall esteem it a favour.

Yours truly,
REGISTER ALL RECEIPTS. (214/72.)

SIR,—I remember to have seen such a till as that referred to by "Heder" in use about thirty-five years ago; it was worked by a lever opposite the assistant, and was about 15 inches in diameter, which made it very cumbersome, besides possessing the disadvantage of dropping every coin

into one drawer, necessitating the keeping of another drawer for change.

This till was very good as a check between the buyer and seller when any dispute arose respecting the coin paid and the change given, but the time occupied in taking change out of the other drawer, or in being careful that no small silver coin was between the coppers, caused friction and annoyance to the customer, and I think it has fallen into disuse.

There was another objection to its use—namely, that the change drawer was rarely correct.

I have paid a little attention to the various designs which have been advertised in your journal during the last few years, and whenever I have seen such a till in use as I travel about generally inquire how they work.

Upon this point there is a great diversity of opinion. Employers say that where a tape of paper is used and each article is written down, by looking over the tape daily a very good idea of the class of goods most in demand is obtained, and it is a guide as to the probable stock on hand.

Some masters judge those who come to be assistants by their behaviour when such a till is in use, but it is possible for an erroneous impression to be formed, as a high-spirited youth might object to its use merely on the ground that if used as a check for dishonesty it is not necessary in his case, forgetting that, as an assistant, it is his duty to do as his master directs. Assistants, say they do not find it irksome, except when they are very busy, but by using abbreviations this difficulty is in a great measure overcome, and, as each assistant has free access to the till, there is no delay in getting change.

In some tills there is a peculiar mechanism by which only one person can open it—such an arrangement with slits at the top for coin to be put in prevents anyone from tampering with the contents, but is no check upon the attendant.

In all establishments where youths are taken as apprentices a cheek-till would probably remove the temptation which an open till presents, and be the means of preventing many from losing their character for honesty or having a life-long stigma attached to discovered peculation.

I am firmly convinced, however, that no master should place implicit confidence in any till, but, wherever there is the slightest suspicion, subject the receipts to a continued and careful supervision.

Yours respectfully,
CASH. (214/74.)

SIR,—In reply to "Heder" I have the pleasure of informing him that the maker or patentee of the till he describes was Mr. W. G. Nixey, of blacklead fame. I have had one in use about twenty-six years, which I got from him, and have found it of great value, especially when two-shilling pieces were not so well known by the public as to-day. It was no uncommon thing when I first got it for a person to say, "It was 2s. 6d. I gave," when it was only a two-shilling piece. I have no hesitation in saying that it saved me considerable unpleasantness, as well as its cost. I gave 30s. for it.

I am, &c.,
6 Spring Bank, Hull, January 4. CHAS. B. BELL.

Recovery of Spirit in Making Lin. Bellad. Meth.

SIR,—I have considerable quantities of lin. helladon. meth. to make—batches of 4 to 8 gallons at a time—and do not have more than 5 oz. per gallon of loss, frequently less. I put the crushed root (in 40 powder) in a large tin percolator and pass the S.V.M. through in 1 gallon quantities, then carefully displace the spirit with water. This recovers almost all the spirit before any trace of water begins to come through.

The operation (in an 8-gallon lot) takes fully a week to finish.

Faithfully yours,
G. F. M. (216/66.)

Views on Sponge.

SIR,—In a recent number of THE CHEMIST AND DRUGGIST you published a letter from a firm of sponge merchants in which my statements as a witness were commented on.

1. That the best kind of sponges were not bleached.
2. That acid was used.
3. That the process is injurious.

With respect to the first. All your readers will be acquainted with the ordinary trade terms "bleached" and "unbleached," and the interpretation of them. The process they go through in the fisheries most schoolboys have read with interest, in the various histories of sponge, pearl, and other fisheries.

The terms are used on nearly every page of the price-list issued by the firm referred to, and therefore they may be said to admit that the terms are quite understood.

As to the second. I am reported to have stated that acid was used. I stated that acid "or other chemical" was used; this is, however, unimportant. I am inclined to think that the specimen had been subjected to alkaline bleaching. For other details and comments I must refer the reader to the report of the trial.

As to the third statement—bleaching in general. I am of opinion (and venture to say not alone) that any process other than the effects of light and air, applied to the delicate fibre of even the commonest sponge is calculated to weaken and damage it.

The object of the letter is evident, and I should not have replied to it but for the remark of one or two friends who consider I ought so to do. I have a great aversion to gladiatorial displays of this kind of no public importance, and consider such letters should be paid for as advertisements.

I am, sir, yours obediently,

32 Ludgate Hill, January 9.

THOS. HAWKINS.

Analysts and Tinctures.

SIR,—I thoroughly agree with the remarks made by you upon the above subject, under Editorial Notes, in page 17, vol. xxxvi. Not only is outside matter of importance, such as you mention, taken no notice of, but the secretaries systematically suppress all discussion which takes place at the ordinary meetings of the society if not in accordance with their ideas, and only publish remarks made by themselves and their supporters—a fact visibly illustrated in the discussion which took place upon Mr. Allen's last paper, which you have also drawn attention to. I opened the discussion upon Mr. Allen's paper by pointing out that he had altogether forgotten the clauses of the Aet when he stated that olive oil and soap did not come under the scope of the present Aet. Olive oil being mentioned in the *Pharmacopœia* and used in the preparation of liniments was undoubtedly a drug.

Mr. Allen thereupon immediately admitted he had forgotten that fact, but instantly asked me in return if I would call soap a drug—an article which was rubbed over the whole of one's body: a question which was received with roars of laughter, which rapidly subsided when I replied that it was also mentioned in the *Pharmacopœia*, an article extensively used as the basis of pills for internal use, and externally its use was simply fabulous.

The county members of the society know practically nothing of the discussions which take place at the ordinary meetings; only the remarks of those who support certain official members are allowed to appear in print. There appears to me to be something thoroughly un-English about the management of the society's affairs. In conclusion, I hope, sir, you will not be threatened to be boycotted for publishing this letter, for I can assure you that the editor of the *Analyst* has already been threatened for publishing a previous communication of mine.

Yours faithfully,

13 Fish Street Hill, Jan. 8.

WILLIAM JOHNSTONE.

Canning Oysters.

SIR,—During a visit to Jersey I became acquainted with a gentleman at Gorce who had an extensive establishment for preserving oysters. About half-a-dozen women were engaged in opening the oysters with great rapidity—almost as quickly as one could count—others packed them in tins. Lids were then soldered on, each of which was punctured with a sharp tool. They were placed in shallow jacketed pans containing a solution of chloride of calcium; after a certain amount of cooking the steam was turned off, previous to which a drop of solder, adroitly placed, closed each aperture. I was informed that the article is exported entirely to the Papal States—a seasonable adjunct to salt fish on fast days.

BIVALVE. (232/39.)

Labels with Directions.

SIR,—It may be useful to the trade to hear that such directions as the following render the package liable to stamp duty:—

CONCENTRATED SOLUTION OF CAMPHOR.

DOSE.—Two or three drops on sugar every fifteen minutes, less frequently when relieved.

PREPARED BY

JOHN BLANK,
DULTOWN.

I had a suspicion that this was not a safe label, and sent it to Somerset House.

Yours,
HEDER.

A Suggestion re Cutting.

SIR,—For the information of chemists and druggists who, like myself, have broken innumerable knives in cutting opium, camphor, and more especially ammonia, I may say that I have found to answer admirably a second-hand sugar-chopper, which I bought for less than a shilling, in consequence of grocers not now using them. They cut well, are easily worked, will last a long time, and when not in use can be put away until wanted again.

Shields Road, Byker,
Newcastle-on-Tyne.

Respectfully yours,
LANCELOT ARROWSMITH.

MISCELLANEOUS INQUIRIES.

A large number of correspondents ask us for formulæ and other information already published in this journal. It is not fair to more careful readers that we should frequently repeat such information, and so long as the back numbers containing the formulæ or replies required are in print we must decline to do so. Back numbers of our weekly issue can be obtained from the publisher at 4d. each.

210/20. *Trichologist* makes Lime-juice and Glycerine from the following formula:—

	Oz.
Nut oil	32
Castor oil	8
Saccharated solution of lime	2½
Lime water	40

This separates, and how is that to be prevented? Try the following plan:—Dissolve ¼ oz. medicinal soft soap in 4 oz. of water. Mix with the oils, then add 36 oz. of lime-water previously mixed with the saccharated solution. Perfume with ½ oz. oil of lemon, 1 drachm of bergamot, and 10 drops of citronella.

214/56. *J. J. J.*—Using Hydrogen Peroxide for the Hair.—Wash all grease from the hair, dry, and put on the peroxide with a tooth-brush.

210/5. *B. R.*—1s. per lb. would be a fair price to a surgeon for white oils; 9d. per lb. would suffice for lin. tereb. alb. c. ammon.

211/19. *Midlands.*—In taking outdoor apprentices in England, in average businesses the term is usually three or four years, and no premium is paid on the one hand, nor salary on the other. In Scotland, where apprenticeships are mostly outdoor, it is usual for the master to pay a small and progressive salary from the first.

213/65. *H. H.*—You cannot make paraffinum molle satisfactorily from the liquid and solid paraffins.

214/3. *W. C. B.*—**Alkali Degrees.**—According to Lunge and Hurter the French degrees mean the quantity of real sulphuric acid, H_2SO_4 , neutralised by 100 parts of soda ash. The German degrees express the available alkali in terms of sodium carbonate, Na_2CO_3 . In England some works invoice in real per cent. of soda, Na_2O , whereas the Newcastle test is based on the equivalent 32 for Na_2O , or 59.25 degrees for pure Na_2CO_3 . The following comparison will show you how these are related to each other:—

English Na_2O	German Na_2CO_3	French	Newcastle
50	85.48	79.03	50.66
60	102.58	94.84	60.79
70	119.69	110.64	70.92

The following is typical of the composition of 60° cream soda:—

	Per cent.
Sodium hydrate ($NaHO$)	70
„ carbonate (Na_2CO_3)	5
„ chloride ($NaCl$)	7
„ sulphate (Na_2SO_4)	2
Water	15.8
Insoluble matter	0.2

You will see from this that caustic soda stronger than 76 English degrees is practically impossible. The 98° which you speak of is either French or German. We have no means of ascertaining the strength of solutions of commercial caustic soda from their specific gravities. (2) We have not heard of artificial musk being used for soap-making. (3) The milling process for making soaps is becoming much more used, but exclusively for the better-class soaps. In France, for example, where there is more high-class soap used than any other kind, the milling process is most employed, and is undoubtedly best for the purpose. We do not understand how your soaps can become soft, unless they have not been properly dried or sufficiently pressed. You do not tell us whether the sample which you send is milled or boiled. It certainly is rather moist.

210/67. *Senex.*—**Liqueur de Goudron de Guyot.**—This is made by digesting 2,000 parts of tar in a solution of 200 parts of crystallised sodium carbonate with 4,000 parts of water, and distilling 2,000 parts. To the residue in the still 8,000 parts of water is added, then the ethereal oil from the distillate, and the whole, after thorough agitation, set aside for three days and filtered.

209/54. *W. & S.*—See our advertisement columns.

227/32. *Bromo.*—See our issue of August 11, 1888, page 191, for the Bromidia formula.

192/8. *Liber.*—We have not succeeded in making paper adhere perfectly to the book-cover, but a fairly good result is obtained with flour-paste made from:—Wheaten flour, 1 oz.; gum arabic, 1 oz.; alum, 1 drachm; glycerine, 2 drachms; water, 10 oz. It would be too slow and expensive a process to remove the glaze.

210/9. *Oleum.*—**Refined Rape Oil** is scarcely affected when 5 parts of the oil are treated with 1 part of nitric acid containing a little nitrous acid, but if the oil is contaminated with linseed oil the mixture assumes a colour varying from greenish-yellow to pale brown. Cotton-seed oil gives a distinctly orange colour. The specific gravity of rape oil is lower than its adulterants. The only way to determine satisfactorily the amount of adulteration would be by the iodine or bromine absorption process in the case of the linseed oil. For details of this see Allen's "Commercial Organic Analyses," vol. ii.

213/53. *Dandruff.*—The sample is nitrate of potash, not quite pure, but suitable for horse powders. Startin's pomade for scurf may be used daily. We have no idea what the composition of Hopgood's cream is.

210/7. *Cinnamon.*—"Hydrocele," by S. Osborn. (Chnrchill, 3s.). There is no radical cure.

215/55. *F. B.*—Dr. Horace Dobell now resides at Bourne-mouth.

214/51. *Vaseline.*—**For Removing Hard Skin** from the soles of the feet, treat with soap plaster to which a tenth of its weight of salicylic acid is added.

216/37. *Justice.*—We should not publish such a letter as the one you send us unless we had conclusive, direct, and corroborated evidence of its exactness.

Periodate Crystals.—Several correspondents have asked us what this is, and we have to reply that it is a speciality made by Mr. W. Weaver, Manor Street Works, Clapham, S.W.

212/34. *Hyd. Subchlor.* asks, "Would damp cause calomel to turn black with sugar?" It altogether depends upon what the sugar is. If it is of low quality and contains an unusual amount of alkali it undoubtedly would. Calomel does not change to a black colour without undergoing dechlorination, and that would be easiest effected by an alkali. But, as the powders were in paper and damp, we should think that the ammonia from the air was really the origin of the trouble.

210/70. *Wild Cherry.*—**Syr. Camphor. Co.:**—

Tr. camph. co. (sine opio)	3ij.
Oxymel. scillæ	5vi.
Syrup. opii	3j.

M.

Dose: One teaspoonful.

Syrup of opium is made by digesting 4 oz. of opium in a gallon of water; when cold, filter, make up to 12 gallons with water, and dissolve 1 cwt. of sugar in it.

213/25. *Calc.*—**A Simple Way for Testing Lime-water** is given by Mr. Barnard S. Proctor, which is as follows:—Colour 2 fluid oz. of lime-water with a few drops of tincture of litmus and add a solution of 2 grains of oxalic acid, when a white precipitate of oxalate of calcium falls in the solution, which should retain its blue colour. Should the tint be red the lime is deficient.

214/57. *Ico.*—You cannot now obtain registration as a dentist by any means other than obtaining the license of one of the recognised colleges, and this you can only obtain after curriculum and examinations. You will find particulars of the courses of study, fees, &c., in the last Educational Number of this journal, September 21, 1889.

Information Wanted.

[Replies to the following requests are solicited by correspondents of THE CHEMIST AND DRUGGIST.]

211/65. Formula for pulv. magnes. boracis comp.

226/29. Formula for Boden's hot drops, used in the Manchester districts for consumption, toothache, &c.

Information Supplied.

By J. Marson & Son, Chemists, Stafford:—

190/74. Perhaps mineral naphtha would answer "J. A.'s" purpose. We use it sometimes for thinning black varnish. Costs about 1s. 4d. per gallon.

193/60. Ungt. zinci is sold for pearl ointment in this district.

199/7. Jahncke's patent boxes. I think, through Maw's.



SHOP BOTTLES & JARS

WITH VITRIFIED (burnt in) LABELS

(Black Letters on a ground of Pink or White Enamel).

Labels indestructible and of elegant appearance, forming an even surface with the glass or porcelain. The Jars of best porcelain, thoroughly greaseproof. The Bottles hand-made and of superior quality. Both are unsurpassed by anything in the market in every respect. Also a CHEAPER sort of Bottles and Jars, with labels equally indestructible, but very plain, especially suitable for Dispensaries, &c. Intending Buyers are requested to inspect Samples at

H. POTHS & CO.,

4 CREECHURCH LANE, LEADENHALL STREET, E.C.

A large number of Shops have been fitted up with these Bottles and Jars, both in England and the Colonies, a list of which can be had on application.



LATEST NOVELTIES:

POISON BOTTLES of Ribbed Blue Glass, with RAISED White Vitrified Letters, and the Word "POISON" in Red at foot
DRAWER LABELS of Crystal Glass, with Bevelled edges and Vitrified Labels to match the above Bottles and Jars.
A STANDARD LIST OF LABELS for Chemists' Shop Bottles, Jars, and Drawers will be sent free on application.

A Stock of small sets always on hand.

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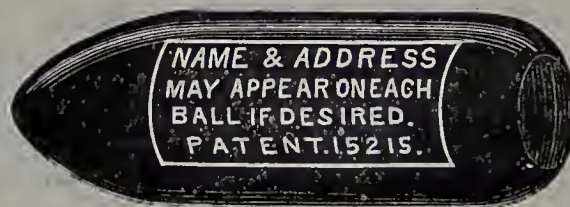
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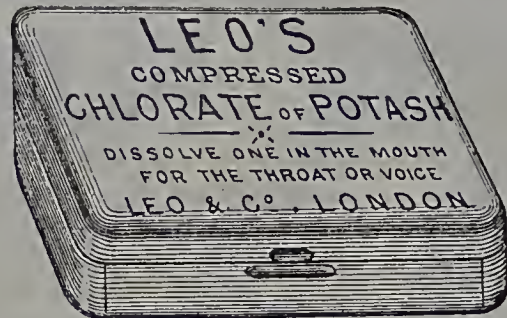
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MANCHESTER.

OPPENHEIMER'S
CREAM OF MALT
 (REGISTERED),
 WITH COD-LIVER OIL,
 AND THE
 HYPOPHOSPHITES OF LIME, POTASH, AND SODA.

Can be obtained from all Wholesale Houses, or direct from the Sole Manufacturers,
OPPENHEIMER BROS. & CO., Manufacturing Chemists,
 1 & 3 SUN STREET, FINSBURY SQUARE, LONDON, E.C.

CHEMISTS WHO HAVE FAILED

To find a suitable Malt Extract should give Loefflund's a trial. It neither ferments nor crystallises, and is absolutely pure.
 In 2 cwt. casks, 28 lb. tins, 7 lb. tins. Also Malt Extract and Cod Liver Oil in Bulk.

LOEFLUND'S
KINDERMILCH & ALPINE MILK BISCUITS (POWDERED) (INFANT'S FOODS)

Are prescribed by the leading specialists in diseases of children.

LOEFLUND'S CREAM EMULSION (Cremor Hordeatus)

Is invaluable to those who cannot assimilate Cod Liver Oil.

Sole Agents—**ROBERT BAELEZ & CO., 14-20 ST. MARY AXE, E.C.**

All
Wholesale
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PETER HOLLERS
COD LIVER OIL

43
SNOW HILL
E.C.

LONDON, CHRISTIANIA, STAMSUND, AND SYLTEFJORD.

INTERNATIONAL FISHERIES EXHIBITION, LONDON, 1883.

COD LIVER OIL.

The Only GOLD MEDAL
 For British Exhibitors was awarded to

T. J. SMITH,

10 & 11 NORTH CHURCH SIDE, HULL.

Importer of Norwegian, Newfoundland, & other varieties.

Low Quotations on application. Delivered at London or Liverpool.

TRADE MARK.



SODEN MINERAL PASTILLES

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Only Efficient Preventive against the Prostrating Epidemic of RUSSIAN INFLUENZA.

Universally Acknowledged the Best Remedy for Affections of the THROAT, CHEST, and LUNGS. Recommended by the greatest Medical Authorities, especially by SIR MORELL MACKENZIE, whose Testimonial is affixed to each box.

They are irresistible in the cure of all Chronic Catarrhal Affections, as

**Coughs, Colds, Bronchitis, Asthma, Irritation, Diphtheria,
 and Catarrh of the Stomach.**

They are Nature's own Medicine, and contain neither drugs nor anodynes; may therefore be safely given even to children of tender age. Nobody old or young, should ever be without them, their effect being equally wonderful as a

PREVENTIVE AND A CURATIVE.

Sold in Boxes, 1s. 1½d., by all Chemists, and by the

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WHOLESALE AND EXPORT DRUGGISTS

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SOLE MAKERS OF

O. F. H. SKELTON, Esq., M.R.C.V.S.L.,
Leyton, Essex,
Writes:— April 5, 1889.

I have great pleasure in saying that your Quinine Tonic Ball exceeded my anticipations. Horses in low condition, and those recovering from illness, showed marked improvement after treatment with them. The Quinine Tonic Ball should prove a boon to all owners of horses.



J. G. CROSS, Esq., M.R.C.V.S.L.
Shrewsbury,
Writes:— May 20, 1889.

I have used your Quinine Tonic Balls, and consider them invaluable for animals recovering from any severe illness, specially from influenza.

GABRIEL & TROKE'S QUININE TONIC and STIMULATING GELATINE CAPSULED HORSE BALLS

(Registered No. 81,291).

Alterative, Condition, Cordial, Cough, Diuretic, Fever, Physic, and Worm Balls.

GABRIEL & TROKE WERE THE FIRST MAKERS OF GELATINE CAPSULED HORSE BALLS.

ESCHMANN BROS. & WALSH,

Inventors and Manufacturers of the

SOFT SILK FLEXIBLE CATHETER,



GUARANTEED WITH WOVEN EYES.

To be had of all Surgical Instrument Makers and Wholesale Houses.

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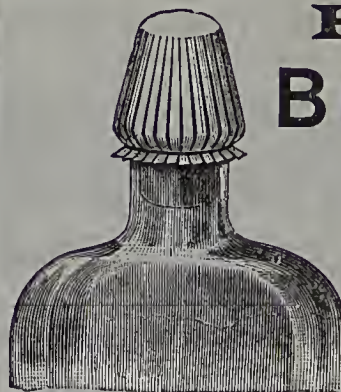
Genuine Liquorice Cakes.

Our Goods are of the highest quality, and are noted for their purity and flavour.

Registered Copyright Novelties,
AND A LARGE VARIETY OF
LIQUORICE CONFECTIONERY.

VICTORIA WORKS, PONTEFRACT.

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Pleated Paper, from 8d. per Gross.

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Depôt of DIGNIE'S ENAZYMES.

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JOHN OAKLEY & SONS,

MANUFACTURERS OF

Glass Paper, Emery and Glass Cloth; Emery, Black Lead, Emery Wheels, Pumice Putty Powder, Crocus, Urn Powder, Tripoli, Rouge, Plate Powder, Steel Polish, Furniture Polish, Knife Boards, Brunswick and Berlin Black, &c.

OAKLEY'S WELLINGTON KNIFE POLISH,

Prepared expressly for Oakley's Patent Rubber Knife Boards, Buff Leather Boards, and all the Patent Knife Cleaning Machines.

Sold in Canisters with perforated Tops to prevent waste, at 1d., 2d., 3d., 6d., 1s., 2s. 6d., and 4s. each.

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For Cleaning and Polishing Silver, Plate Glass, Marble, &c. Tablets, 6d. each.

OAKLEY'S "POLYBRILLIANT" (Registered).

A Magic Pomade for Cleaning Brass, Copper, Tin, Pewter, Britannia Metal, &c. Never becomes dry and hard like other Metal Pastes.

Tins 1d., 2d., 3d., and 6d. each.

WELLINGTON BLOCK BLACK LEAD.

In 1d., 2d., and 4d. Blocks, and 1s. Boxes.

WELLINGTON EMERY & BLACK LEAD MILLS, Westminster Bridge Road, London, S.E.

Highest award and Prize Medal, Philadelphia Exhibition, 1876; and Boston, 1888. Gold Medal, Crystal Palace, 1884

"CUTTING COUNTERACTED."

MOONSEED BITTERS brings FULL PRICES.

WHY?

Because every one who retails Moonseed Bitters has to sign an Agreement or Contract in the following terms:—



MOONSEED BITTERS.

Above is Facsimile of
THE WRAPPER LABEL
of the 2/9 size.
It is also sold at 4/6.

MOONSEED OINTMENT.

Retails at 1/1½, 2/9, 4/6 per box.

Memorandum of Agreement made this.....day of..... 1889, between A. E. POWELL & COMPANY, of Swindon in the County of Wilts, Proprietors of the Moonseed Bitters and Moonseed Ointment (hereinafter called the "Vendors"), of the one part and of (hereinafter called "the Purchasers"), of the other part.

Whereby it is mutually agreed between the said parties hereto as follows:—

In consideration of the Vendors selling to and supplying the Purchasers with Moonseed Bitters, Moonseed Ointment, and other preparations manufactured and sold by them (hereinafter termed "the Goods") at their usual prices, the Purchasers will observe and perform the following terms and conditions:—

1. The Purchasers to sell the Goods retail for full printed prices only, and for each and every Bottle or Box of Moonseed Bitters, Ointment, or Pills sold by him or them at any less price, without the written consent of the Vendors, the Purchasers shall pay to the Vendors the Sum of Twenty Shillings in the nature of a penalty, to be recoverable as ascertained liquidated damages.

2. The Purchasers not to supply any Wholesale House nor to sell the Goods wholesale to any Chemist or Druggist or Medicine Vendor who will not previously enter into an Agreement to retail the same at prices in accordance with the preceding Clause No. 1 of these presents.

All Purchasers who have signed a similar form of Agreement to the foregoing will be supplied upon the Vendors' usual trade terms, but those Purchasers who do not sign a similar form of Agreement to be supplied upon the following terms only, namely:—**RETAIL**, 4s. 5d. for each and every 4s. 6d. Box or Bottle, 2s. 8d. for each and every 2s. 9d. Box or Bottle, and 1s. 0½d. for each and every 1s. 1½d. Box or Bottle—net in all cases. **WHOLESALE**, 4s. 4d. for each and every 4s. 6d. Box and Bottle, 2s. 7d. for each and every 2s. 9d. Box or Bottle, and 11½d. for each and every 1s. 1½d. Box or Bottle—net in all cases. This Agreement and the terms and conditions herein contained to remain in full force and virtue for the term of 7 years from the first day of March, 1889.

As witness the hands of the said parties hereto the day and year first above written.

We call attention to the important steps which we have taken to prevent our specialities being retailed at less than the advertised prices, and we ask the co-operation of the Trade in maintaining the integrity of the scheme whereby the sale of our preparations may always be retained by the legitimate trade. We will not only endeavour, by all means in our power, to prevent the advertised prices being "Cut," but will give Chemists every assistance and facility for making this a large as well as a paying business.

Please write for Terms and Form of Agreement. NOTE that we allow retailers of Moonseed Bitters 2s. 6d. per thousand for the Distribution of Pamphlets.

A. E. POWELL & CO., SWINDON.

KNIGHT'S PATENT 'RELIANCE' GUM AND LIQUID GLUE.



REGISTERED TRADE MARK.

In 1d., 3d., 6d., 9d., and 1s. Bottles.

THE CHEAPEST AND STRONGEST ADHESIVES
IN THE MARKET.

Warranted Absolutely Free from Acid.

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5 WATER LANE, GT. TOWER STREET, LONDON, E.C.

WHOLESALE AGENTS:—BARCLAY & SONS (Lim.), Farringdon Street, London, E.C.; F. NEWBERRY & SONS, King Edward Street, London, E.C.; S. MAW, SON & THOMPSON, Aldersgate Street, London, E.C. EDWARDS & SON, Queen Victoria Street, London, E.C.; THOMPSON, WALTERS, HOLE & CO. (Lim.), Curtain Road, London, E.C.

CHALMERS' PATENT SAMPLE AND PARCELS POST BOX. THE ONLY BOX

That fulfils ALL the requirements of the POST OFFICE.



Is fastened INSTANTLY.

Cannot open by accident.

Is immensely strong.

Has no corners.

No seams, joints, nor solder.

Nothing to scratch or tear letters.

Is practically air-tight:—Is used
for Flour, Cherry Blossom,
Sanitas, and Soap-Powders.

Dispenses with string, bags, and
paper.

Saves 19 minutes out of 20.

94,500 SOLD IN THREE MONTHS

SAVING THEIR OWN COST.

W. B. CHALMERS, 37 MINCING LANE,
E.C.

GLASS BOTTLES

To Messrs. BREFFITS, LD.,
83 Upper Thames Street, London.

Spring Vale, Steel Bank, Sheffield,

GENTLEMEN,—

9 December, 1889.

On perusal of THE CHEMISTS' AND DRUGGISTS' DIARY, 1890, I find you have a good line in feeders and various class of bottles, and I have transferred my order from another house to you in preference. Will you be good enough to let me have the Feeders and Vaselines (or blue opal screw) at once. We are "very low down," but if you could forward the entire order during this week we might wait. I enclose card for full address.

Yours very truly,

ALBERT ARCHER,

WHOLESALE CHEMIST AND DRUGGIST.

Upon receipt of above letter Messrs. E. Breffit & Co., Ltd., wired Mr. Albert Archer asking if copy of the letter could be inserted in this week's "Chemist and Druggist," and received following telegram in reply:—

To Breffits, London.

Sheffield, 10.45 A.M., 10 Dec., 1889.

YES	WITH	PLEASURE	EVERY	WORD
IF	YOU	LIKE	GIVE	YOU
CARTE	BLANCHE	YOURS	MOST	USEFUL
ADVERTISEMENT				

ALBERT ARCHER.

SAMPLES, PRICE LISTS, &c., UPON APPLICATION.

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(LIMITED),

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MANUFACTORY.

"Eclipse" Glass Works
Lea Bridge, Clapton, London, E.

Prize Medal, Adelaide Exhibition, 1887.
Award of Merit, Melbourne, 1888.

OFFICES AND WAREHOUSES,
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LONDON, E.

E. A. HEARN & CO.

WHOLESALE AND EXPORT GLASS BOTTLE MANUFACTURERS.

Makers of EVERY DESCRIPTION of Glass Bottles, either PLAIN or STOPPERED, in
WHITE FLINT, AMBER, BLUE, MEDICAL GREEN, ACTINIC GREEN, &c., &c.
OR ANY COLOUR MADE TO ORDER.



FEEDING BOTTLES IN ALL SHAPES,
PLAIN NECKS OR SCREW STOPPERED.
SPECIALITY.—First-class Quality at Reasonable Prices.



TO CHEMISTS AND DRUGGISTS.

AGENTS WANTED FOR THE SALE OF CLARK'S PATENT

"SYPHON"

(REGISTERED TITLE)

HYGIENIC CONDENSING GAS HEATING STOVES.

NO FLUE REQUIRED. ARE FREE FROM SMELL OR SMOKE.

All injurious vapours are reduced to harmless liquid inside the Stove, and passed out at foot into a tray provided for that purpose.

FOR USE IN HOSPITALS, SICK CHAMBERS, BEDROOMS, HALLS, CONSERVATORIES, CHURCHES, SCHOOLS, ETC.

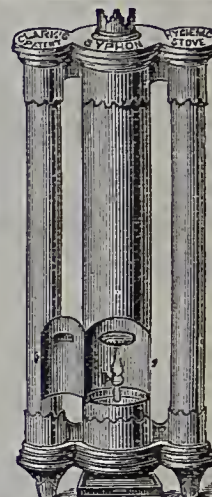
Specially suitable for patients suffering from Bronchial affections, as a moist atmosphere is obtainable when required.

FOR TERMS, PARTICULARS, AND PRICES, APPLY TO

S. CLARK & CO., Patentees & Makers, Syphon Works, Park St., Islington, LONDON, N.

Telegraphic Address:—"SYPHON STOVES LONDON."

Wholesale Agents:—Messrs. MAW, SON & THOMPSON, Aldersgate Street, London, E.C.



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SIX ADVANTAGES

UNKNOWN IN ANY OTHER TILL SYSTEM.

Price only **£3** Complete.

FULL PARTICULARS ON APPLICATION TO

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DISPENSING BOTTLES & PHIALS

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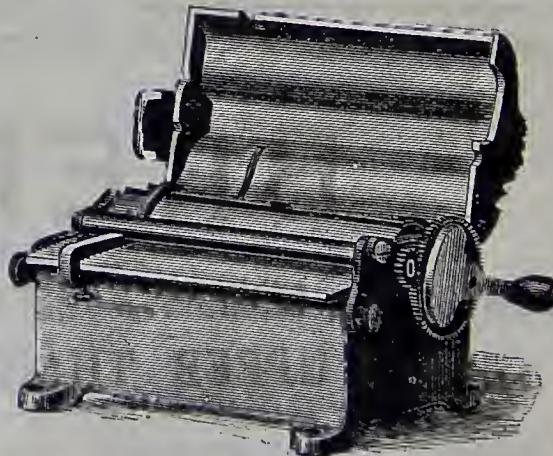
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Either an entire surface or the edge only of Labels, Wrappers, &c.

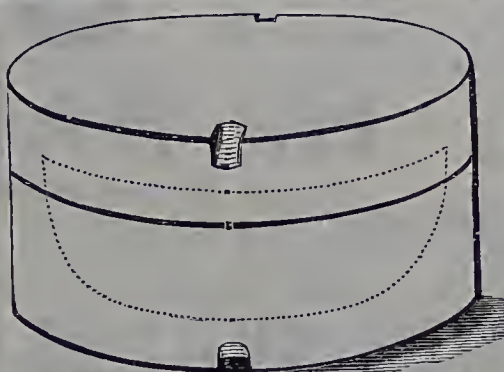


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TOOGOOD'S IMPROVED PATENT EARTHENWARE COVERED POTS

Are claimed to be the most
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Owing to the increasing demand for our Patent Pots, we have introduced a Special THIN Series for Dispensing.

These Pots are beautifully glazed and finished, and, being very light, are specially adapted for sending by post.

ORDINARY THICKNESS—

1 dr.	2 dr.	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8 ounces.
$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{8}$	$\frac{1}{7}$	$\frac{1}{8}$	$\frac{1}{10}$	$\frac{2}{2}$	$\frac{2}{10}$	$\frac{3}{4}$	$\frac{4}{6}$	$\frac{5}{6}$ per doz.

THIN FOR DISPENSING—

$\frac{1}{2}$	$\frac{2}{2}$	1	$1\frac{1}{2}$	2	3	4	6	8 ounces.
$\frac{1}{7}$	$\frac{1}{8}$	$\frac{1}{10}$	$\frac{2}{-}$	$\frac{2}{4}$	$\frac{3}{-}$	$\frac{3}{8}$	$\frac{5}{-}$	$\frac{6}{-}$ per doz.

Forwarded Free to all parts of the World on application, enclosing business card.

WILLIAM TOOGOOD'S NEW ILLUSTRATED PRICE CURRENT

OF

Glass Bottles, Glassware, Earthenware,
Apparatus, Implements, and Utensils,
FOR THE USE OF CHEMISTS AND DRUGGISTS.

DRUGGISTS' SUNDRIES OF ALL KINDS.

Colonial and Foreign Enquiries and Correspondence solicited.

S $\frac{0}{56}$ **V** $\frac{0}{60}$ **R**
18/3 18/9

VERY HIGHLY RECTIFIED
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PURE.

Cash with
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CHEAPEST HOUSE
FOR METHYLATED SPIRIT.

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Flint Glass Bottle Works,
THE OVAL, CAMBRIDGE HEATH, LONDON, E.

For Beauty, Cheapness, and Efficiency R. H. BARRETT'S

WATCH SMELLING-SALT BOTTLES

EXCEL ALL OTHERS IN THE MARKET.

The Caps are all fitted with **INDESTRUCTIBLE WASHERS**, to resist the action of Ammonia and retain the strength of the Salts.

Price, assorted white and coloured, 10/6 per gross (in 5-gross lots).

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PLANS AND ESTIMATES FREE. SPECIAL ATTENTION PAID TO EXPORT ORDERS.

**JAMES
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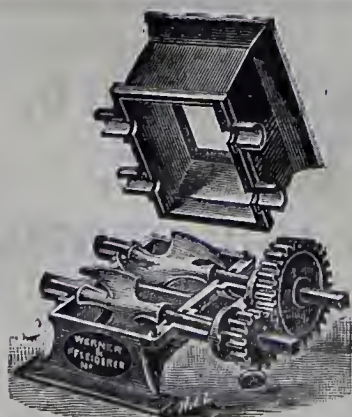
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CALE ST., CHELSEA, S.W.

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AT LOWEST PRICES.

WRITE FOR QUOTATIONS.



Size 3, Type I, for 1-lb. Mass.

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KNEADING AND MIXING MACHINE
FOR
PILL MASS MAKING,

ALSO FOR

Horse Balls, Tooth Pastes, Ointments, Soaps, Powders, and for
general Mixing and Incorporating.

REPLACES WITH ADVANTAGE ALL OTHER APPLIANCES FOR THESE PURPOSES.

Made in various sizes, to do from $\frac{1}{2}$ lb. up to 1 ton at a time.

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IMPORTER OF

Musk Civet Ambergris Attar - of - Rose**ESSENTIAL OILS**Wholesale
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Export
only.

APPLICATION.

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QUOTATIONS

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TURNED METAL FLASK & BOTTLE CAPSFor Spirits, Oils, Perfumes,
Salts, &c.

[2]

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Put up for Retail Sale in 6d., 1s., 2s., 2s. 6d., and 5s. Bottles

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BARBER'S CONCENTRATED LIQUID COCHINEAL*FOR COLOURING JELLIES CUSTARDS, ETC.*

Put up in 6d. and 1s. Bottles.

ALSO BARBER'S ARTIFICIAL IVORY FOR FILLING DECAYED TEETH,
1/- per Packet.

MANUFACTURED ONLY BY THE PROPRIETORS—

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Can be obtained through any of the Wholesale Firms in Great Britain, or from FELTON, GRIMWADE & CO., Melbourne; ELLIOT BROS., Sydney and Brisbane; KEMPTHORNE, PROSSER & CO., Dunedin and Auckland; FELTON, GRIMWADE & CO., Wellington; or direct from the Manufacturers—G. BARBER & CO., Club Moor, Liverpool, England.

S.V.R.
S.V.R.

PURE GRAIN SPIRIT 56 O.P., B.P., 18/5, used by the principal Wholesale Druggists

Do.

Do. DOUBLE DISTILLED 18/9

Cash with Order.

Reductions for Quantities.

SAMPLES FREE.

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SPECIALITY FOR PERFUMERY.

This pure grain spirit, which has been thrice rectified and filtered through charcoal, is being largely used in making high-class Perfumes.

Price, 19/-, 56 o.p.; 19/6, 60 o.p. Cash with order.

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OINTMENT AND PLAISTERS.A CERTAIN and SPEEDY CURE for
SPRAINS, BRUISES, BURNS, WOUNDS, BOILS,
SCIATICA, ECZEMA, PILES,

And "the thousand ills which flesh is heir to."

HUNDREDS OF TESTIMONIALS FROM WELL-KNOWN PERSONS!

Ask your Chemist for the OINTMENT or PLASTER, and

DON'T BE PUT OFF WITH ANY OTHER.

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IN ALL THE ART SHADES.For all kinds of decoration on Wood or Iron. Dry
with a surface like Porcelain. Sold in small or large
Tins, or in bulk. Prices and shades on application.WHITE LEAD, ZINC WHITE,
PAINTS & COLOURS OF ALL
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In Tins, 1, 2, 4, 7, and 14 lbs. each.

HIGH-CLASS VARNISHES

Of all kinds, for Coachbuilders, Decorators, &c.
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GENUINE BLISTER.The Messrs. Barclay & Sons,
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Edinburgh, are now and have
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And by all Chemists, in Pots, 1/6, 2/9, 5/, 9/, and 16/.

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FOR
LAMENESS IN HORSES.Agents Wanted in every Town. Handbills, with Name and Address, supplied gratis
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We shall keep large stocks of these Oils constantly on hand at all our Importing Centres and Depôts, and in this manner be able to supply the Trade promptly. Being the representatives in the United Kingdom of the Standard Oil Company, of America, we are in the best possible position for supplying the trade on the most favourable terms.

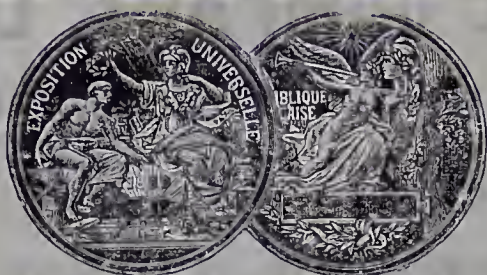
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PARIS EXHIBITION, 1889.
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OPHTHALMIA, SCURVY, RINGWORM,
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FOR
EXTERNAL & INTERNAL IRRITATION
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PACKED IN CASES—

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TESTIMONIALS MAY BE HAD UPON APPLICATION.

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For Public Speakers, Actors, & Singers.
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Floral Extract, 3/6, 5/-,
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Egg Julep, 2/-, 4/-.
CONCENTRATED

Egg Julep, 2/6,
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Lotion, 5/-, 10/6.

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EUCHRISMA.
Combines in one clear Fluid every valuable
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For restoring the original colour of Grey Hair;
superior to all other Restorers, being perfectly
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INVALUABLE for removing Spots, Sunburns, Blotches, and all Imperfections.

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And of all Chemists throughout the World.

ESTABLISHED 1836.

Ladies once using this Preparation will never be without it.

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Has been tested in a Physiological Laboratory as a Germ Destroyer, and proved to be more efficient than any other experimented with.
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IS a New Invention by which the Powder is contained in the Puff, and from which it is distributed in such a manner as to secure an even dispersion wherever directed. The Ariel Powder Puff never touches the skin, and, therefore, risk from contagion is impossible.

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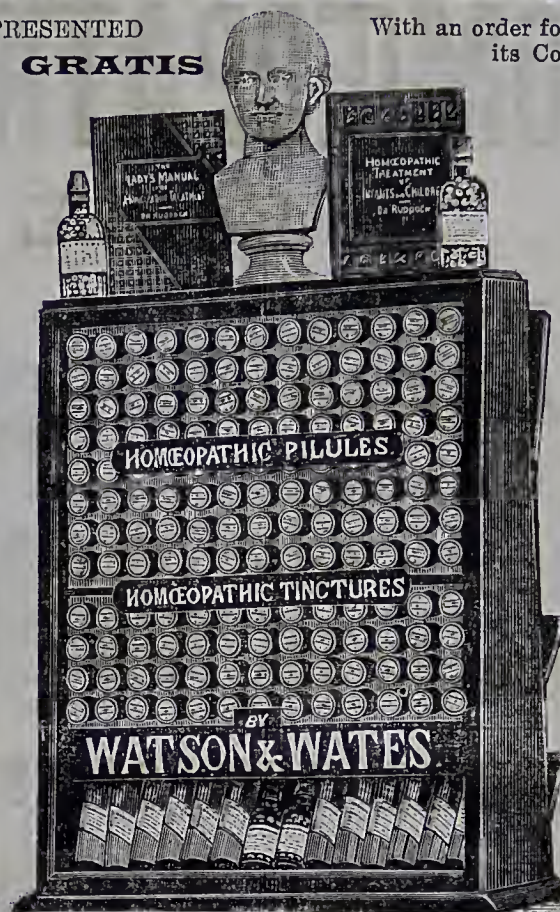


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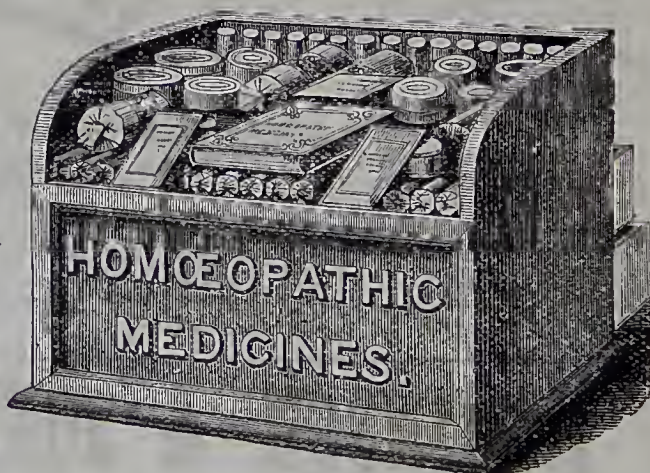
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WITH
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SATURDAY, JAN. 11, 1890.

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ADVERTISEMENTS for this Supplement can be received on FRIDAY MORNING, first post, though it is requested that these may be sent in as early in the week as possible.

EXCHANGE COLUMN ADVERTISEMENTS will appear on page 10 (bottom folio), and must be received not later than THURSDAY AT NOON, to appear in the next issue.

All Advertisements for this Supplement and Exchange Column must be prepaid. Remittances payable to EDWARD HALSE and crossed MARTIN & Co.

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**ACTIVE.** obliging Assistant; about 23; qualified. Mason, Chemist, New King's Road, Fulham, S.W.

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**JUNIOR** Clerk (aged 18) wanted, for the invoice desk of a wholesale druggist. Apply by letter to "Invoice," 390 High Holborn, W.C.

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**JOHN BARKER & CO.,** Kensington High Street, W., require two experienced Assistants; close on Saturdays at 2 o'clock; no Sunday duty.

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**IMPROVER** or Junior wanted immediately; indoors. State age, height, salary required, experience, &c. (or personal interview), to "Chemist," 304 London Road, Thornton Heath, S.E.

**WANTED.** at once, Dispenser with Minor qualification; hours 9 to 7; outdoor. Apply by letter, stating salary required, &c., to the Chemist, Haymarket Stores, 28 Haymarket, London, S.W.

**BIARRITZ.** France.—Assistant wanted: age between 20 and 30 years; good references required; state age and salary required, &c. Apply to London Dispensary, 19 Rue Mazagran, Biarritz, France.

**INVOICE CLERK** wanted; must write a good hand, and have some knowledge of the Drug Trade. Apply, enclosing copy of last testimonial, and stating salary required, to Hunt & Co., Dublin.

**AT** Once, Assistant (Junior preferred) for quick Retail and Dispensing trade, where several are kept. Apply, enclosing carte and stating age, height, salary, &c., A. T. Collis, 11 Abbey Churchyard, Bath.

**TO DISPENSERS.**—Wanted, at once, a Dispenser (outdoor); must be qualified, and under 35 years of age; no Sunday work. Apply, by letter, stating experience and salary required, to H. B. G., 136 Queen Victoria Street, E.C.

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**WANTED.** between now and end of month, good Junior, aged about 22, able to manage Branch; Mixed trade; Tooth extractor; in or outdoors; one desiring a permanency preferred. Apply, with full particulars, to Robinson & Co., 63 Church Street, Hunslet, Leeds.

**IMMEDIATELY.**—Front Counterman; must be a good salesman, gentlemanly, and active. Also, in a fortnight, a Dispenser, qualified; must be a responsible man-of-business. Applications and photo to E. A. Holloway, Chemist, Leamington Spa.

**INVOICE** Clerk, used to the Wholesale Drug and Patent Medicine trade; must be quick at figures, a good penman, and have some knowledge of bookkeeping. Apply, stating age, experience, and salary required, G. L., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

**WANTED** immediately, a gentlemanly Assistant, about 22 years of age, abstainer preferred, for a Homoeopathic business; knowledge of Homoeopathy not a necessity—though preferred. Write full particulars, salary, &c., with photo, to Gillett, 18 Leyland Road, Southport, Lano.

**WANTED.** a qualified Assistant as Manager; single; indoors; must be thoroughly reliable, and able to extract teeth preferred; good salary to a suitable man. State age, salary expected, and full particulars, with photo, to Ollver & Co., Chemists, 176 King Street, Great Yarmouth.

**WANTED.** immediately, a qualified Assistant, to take Dispensing and assist in general Retail when required; two kept; salary £60, indoors; not under 25 years of age. Apply to Mr. Tomlinson, 2 Lower Seymour Street, Portman Square, W. If by letter, enclose carte (to be returned).

**IMMEDIATELY.** a thoroughly good Assistant, with unexceptionable references. Apply, with fullest particulars, naming age, salary expected, whether qualified, &c., by letter only, in first instance, to "Pharmaceuticalist," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

**WANTED** immediately, an energetic Assistant, aged about 22, to take charge of a small Branch; Light Retail and Family trade; no Sunday duty. Send photo and full particulars to Owles & Son, Pharmaceutical Chemists, Great Yarmouth. Also a vacancy for an Improver and an Apprentice.

**WANTED** immediately, Junior or Improver, of good address, for a Dispensing and Light Retail Country Business; only one kept; no Sunday duty; time for study if required; comfortable home; small salary. Apply, with photo, if possible, references, and every particular, to Vinson & Foaver, Hawkhurst, Kent.

**WANTED** immediately, an Assistant; outdoors; hours of business are from 9 A.M. to 9 15 P.M. except Saturdays to 10 30 P.M., and one evening a week to 5 P.M.; apply, stating when disengaged, age, height, references, giving dates and salary required. D. P. Roberts, Drug and Chemical Store, North End, Croydon.

**IMMEDIATELY.**—2 quick Tooth Extractors, one gentleman, the other lady; must have their own modern forceps; salary 3 guineas per week, paid weekly; railway fare paid in advance; send particulars of age, height, and experience, also photo, which will be returned. Address, Harry Watson, 39 Ripon Street, Lincoln.

**WANTED,** competent and trustworthy Assistant (indoor), accustomed to Dispensing; manufacturing town; Country and Agricultural Retail Trade; one seeking permanency preferred; good references required; must be steady and reliable. Apply, stating age, height, former experience, salary required, photo (to be returned), A. Sidney Campkin, Chemist, Cambridge.

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**WANTED,** for India (healthy climate), General Assistant Chemist, age about 24; strong, healthy, steady, trustworthy, pushing salesman; nature of business, General Dispensing Chemist, also Wines, Stores, Fancy Goods, &c.; 3 years' engagement; free quarters; salary first year 125 rupees a month, rising to 150 rupees a month. Apply, with photo, and copies of testimonials, for transmission to India, 238/40, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

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